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ABSTRACT

Intended for use in Florida training programs for caregivers of infants and toddlers with disabilities, this guide presents an overview of the Model of Interdisciplinary Training for Children with Handicaps (MITCH); offers a user's guide to the series; and provides specific information for presenting Module 10, which focuses on nutrition and feeding practices. After the introduction to the MITCH program as a whole, the user's guide provides information on the instructor's role, the 3-hour training session, the use of videotapes and audiotapes, and follow-up activities. For this module, goals and objectives focus on providing participants with an understanding of the basic food groups, nutrition risk factors, practices which instill positive attitudes toward food, the importance of eating a variety of foods, correct portion size, the normal development of feeding skills, and feeding problems. For each hour of training, a script, suggested activities, and relevant handouts are provided. Attached are lists of recommended resources and references, reproducible forms and handouts, and forms for the 6-week follow up. Also attached is a nutrition handbook for parents and teachers which includes information on nutritional risks, appetite and weight, vitamin and mineral supplements, pica, allergies, dental health, infantilism, disruptive mealtime behavior, food texture, school lunch program, diet and hyperactivity, drug nutrient interactions, and special infant concerns. (DB)

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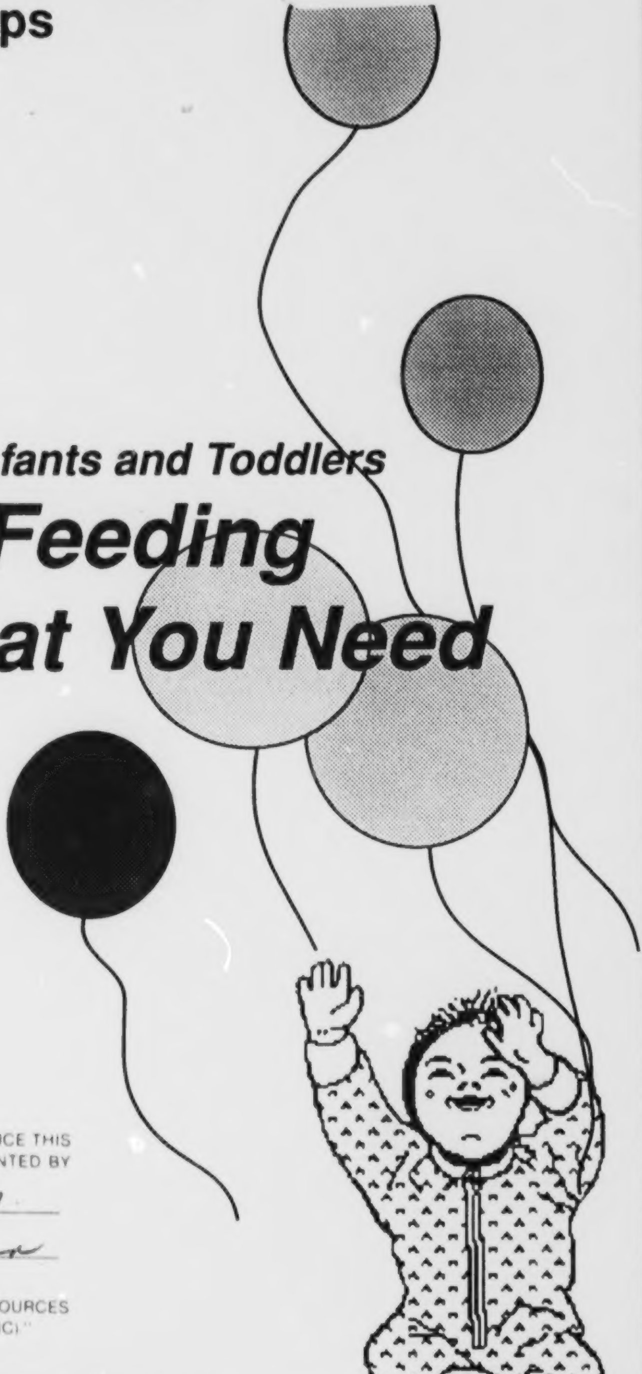
MITCH Module 10

Model of Interdisciplinary Training for Children with Handicaps

A Series for Caregivers of Infants and Toddlers

Nutrition and Feeding Practices: What You Need to Know



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MITCH Module 10

Model of Interdisciplinary Training for Children with Handicaps

A Series for Caregivers of Infants and Toddlers

Nutrition and Feeding Practices: What You Need to Know

Florida Department of Education
Division of Public Schools
Bureau of Education for Exceptional Students
1990

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MITCH Module 10

Model of Interdisciplinary Training for Children with Handicaps

A Series for Caregivers of Infants and Toddlers

Nutrition and Feeding Practices: What You Need to Know

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Introduction

Information in the Introduction should be reviewed by each instructor or user of this material. The Users Guide to Series begins on page 5. Information relating to this module begins on page 11.

PROJECT MITCH OVERVIEW

The purpose of the Project MITCH (Model of Interdisciplinary Training for Children with Handicaps) training series is to assist local school districts in Florida in providing interdisciplinary training and resources to parents, non-degreed daycare workers and healthcare providers who work with special needs infants and toddlers ages 0-5, with emphasis on ages 0-2.

This series was funded by a grant to the Florida Diagnostic and Learning Resources System/South (FDLRS/South), on behalf of the FDLRS Network, from the Florida Department of Education, Bureau of Education for Exceptional Students (BEES).

In 1987, the Florida Legislature designated $100,000.00 of the total appropriation for the FDLRS Network to "expand services to infants and preschool children." The application submitted by Dade County on behalf of the FDLRS/South Associate Center serving Dade and Monroe Counties was selected for funding and was initiated on May 25, 1988. FDLRS/South collaborated with FDLRS/Mailman at the University of Miami and FDLRS/Gateway, serving Hamilton, Columbia, Lafayette, Madison and Suwannee Counties, to complete the work under the grant. Outcomes of the project include:

- assessment of the status of training and resources for the designated population
- design of a collaborative implementation and training model to include development of competencies, replicable training modules which enhance or expand the HRS eight-hour special needs child care module, an adapted training plan for daycare providers, recommendations for curricula to be used in daycare and preschool programs and recommendations for provision of consultation to parents
- validation of the training modules in Dade, Monroe and counties served by FDLRS/Gateway
- provision of training for potential instructors and other interested personnel in the 18 FDLRS Associate Center service regions.

Topics for the eleven training modules, as well as information which provided the basis for the competencies, policy framework and other products of Project MITCH, were obtained from a literature search, interviews and letters of inquiry and needs assessments sent to over 600 persons throughout the state of Florida. The modules were written by several authors from various disciplines, including early childhood education, exceptional student education, nursing, occupational and physical therapy, speech and language, nutrition and social work. Each module was read by several critical readers and was piloted in both north and south Florida at least three times before final rewriting took place.

The training series emphasizes developmentally appropriate practice and normal development as the means for working with youngsters who have special needs. The eleven three-hour modules that currently make up the series have relevance for caregivers of normally developing children as well as caregivers who may be working with children who are handicapped, experiencing delays or who may be at-risk. Although several of the modules specifically address normal and abnormal development from birth to 36 months of age, the material is also meaningful to caregivers of preschoolers who are chronologically older but who are functioning developmentally within the birth to three year range.

MITCH MODULES

Eleven MITCH training modules have been developed.

(1) *Intellectual Development: What You Can Do to Help*

(2) *Speech and Language Development: What You Can Do to Help*

(3) *The Child Who Seems Different: Meeting Special Needs*

(4) *Family Functioning: The Impact of a Child with Special Needs*

(5) *Listening and Sensory Integration: What to Do Before Speech and Language Develop*

(6) *The Caregiving Environment: Planning an Effective Program*

(7) *Behavior Management: Preventing and Dealing with Problem Behavior*

(8) *Health Care: Infection Control, Medication Administration, and Seizure Management*

(9) *Motor Development: What You Need to Know*

(10) *Nutrition and Feeding Practices: What You Need to Know*

(11) *Working Together: Communication Skills for Parents, Caregivers, and Other Professionals.*

Each of the three-hour modules can be used independently. Although the modules are numbered sequentially, they may be presented in any order since no module provides prerequisite material for another. Each module contains a script for the instructor, activities, references, resource list, and reproducible handouts/overheads. In some cases, a videotape and/or an audiotape and other materials are available to supplement the written material.

MITCH BOOKLETS

Three booklets have also been produced through MITCH. These may be used with modules as indicated or may be used independently. The booklets are listed below:

- *A Simple Introduction to Physical and Health Impairments*, to be used with Module 3
- *Welcome to the World: An Overview of Your Growing Child*, to be used with Modules 1, 2, 3, 6, and 7
- *Curricula for Use with High Risk and Handicapped Infants and Toddlers*, for use as a supplement to the modules.

User's Guide to Series

INSTRUCTOR

Instructor Qualifications

Unless otherwise stated, the MITCH modules are designed to be presented by qualified and credentialed instructors in fields such as early childhood special education, early childhood education, special education, child development, psychology and nursing, and Home Economics

Role of Instructor

Although the modules do contain scripts, the instructor is encouraged to add to them with his own style, personality, anecdotes, information, handouts, references and resources. It is expected that the instructor will exercise judgement in tailoring the material to the needs, interests and level of the participants. The best presentations will be those that are specifically designed for the participants by the instructor who best knows their needs.

The instructor may change the lecture/discussion and activity ratio depending upon the group's needs. If all modules are being scheduled for presentation within a relatively short period of time for the same group of participants, the instructor may choose among the activities in order to offer variety since several modules share similar types of activities. The instructor will need to plan adequate time in order to become familiar with the material and tailor it to the needs of each specific audience.

A successful presentation of the material is heavily reliant upon an enthusiastic style on the part of the instructor. Suggestions for achieving this include:

- allow for introductions of participants
- accept and acknowledge interaction from all
- paraphrase questions and responses from the participants loudly enough for all to hear
- create a comfortable atmosphere
- summarize the content of each session before closing.

The audience may include a broad range of persons, including those who knowingly work with very young children with special needs, to others who may have children under their care who have special needs that are not yet recognized. The instructor should assist all caregivers in becoming more comfortable with:

- recognizing indicators that a child may be at-risk or may have special needs
- working with that child
- getting additional support and assistance regarding such a child.

It will be important to emphasize that all children are more like one another than they are different. Keeping children in the most natural or normal environment is a major goal for caregivers.

Instructor Preparation and Follow-Through

Prior to presenting any of the eleven three-hour modules, we recommend that each instructor:

- become entirely familiar with the content and format of presentation
- preview any videotape and/or audiotape
- set date for training
- arrange for a comfortable room in which to present the training
- advertise training in a timely fashion (see reproducible flier in Appendix A)
- arrange for the use of an audiocassette player, VHS videocassette recorder, overhead projector and screen, as needed
- photocopy all handouts and the List of Participants
- prepare overhead transparencies and/or other materials
- collect any additional materials not provided in this packet (see materials list).

After presenting any of the eleven three-hour modules, the instructor should:

- photocopy the reminder letter for each participant regarding the return of the Six-Week Follow-Up Activity
- mail the reminder letters three to four weeks after presenting the training module
- collect, or have participants mail, the completed Six-Week Follow-Up Activity
- review completed Six-Week Follow-Up Activity for each participant
- photocopy Certificate of Completion
- complete Certificate of Completion
- deliver or mail Certificates of Completion to each participant who successfully completed the Six-Week Follow-Up Activity

- maintain a complete record of persons who have successfully completed the module, using the List of Participants.

Reproducible copies of the Instructor's Time Table, Advertising Flier, List of Participants, Mailer and Certificate of Completion are in Appendix A.

THE SESSION

Time

This module, if presented as written, is three hours in length. It may be presented in a single three-hour session, with a 15-minute break after one-and-three-quarter hours, or in three one-hour sessions.

Each module contains a five minute time allotment for opening each hour session, and a five minute time allotment for closing each hour session. If a module is being presented in one three-hour session, the instructor should eliminate the closing time allotment from hour one and the opening time allotment for both hours two and three in order to gain 15 minutes to use for the break. The 15-minute break should occur between presentation of the second and third hours of the module.

It is important to start and end each session on time. Estimates of presentation time are written in the left hand margins for specific segments or activities within each hour. However, the instructor may choose to expand on one or more of these segments or activities while shortening others.

Remember that a limited amount of information that is thoroughly presented will be more meaningful for participants than a larger quantity of information that has been inadequately understood by the participants.

Handouts/Overheads

Each training module comes complete with specially designed handouts. Since the modules complement one another, some handouts and booklets are recommended for use with more than one module. Reproducible originals of these materials are included in each of the appropriate modules. The Curricula booklet is available separately. The instructor should monitor and make decisions regarding reproduction and distribution of all handouts. The instructor also should supplement them with others that are appropriate.

When deciding which of the original handouts to reproduce as overhead transparencies, the instructor should choose only those with print large enough to be seen and easily read when projected on a screen. Many of the originals are not suited for use as overhead transparencies.

It is suggested, in a time saving effort, that all handouts be compiled into a single packet and distributed at the beginning of the first hour if the entire three-hour module is being presented, or at the beginning of each one-hour session if the module is being presented in one-hour segments. Only the handouts that will be discussed during the presentation should be reproduced and handed out. Some of the handouts present main points but are designed so that participants can use them for note taking. This should be called to the attention of the participants when appropriate.

MITCH printed materials may be reproduced and used in a manner that best meets the needs of the participants. Reproducible originals of handouts, overheads, and booklets (excluding the Curricula booklet) are in Appendix B of each module.

Videotapes

Videotapes have been chosen to supplement the material of several of the modules (Modules 1, 2, 3, 4, 6, 7, 8, and 9). All of the tapes will provide valuable information for the instructor, even if the videotape is not used during presentation of the three-hour module. Therefore, it is important for the instructor to view the tape that is associated with a specific module prior to presenting the module.

The videotapes have not been included in the designated time allotments suggested in each of the module manuals. The instructor may wish to substitute all or a part of a videotape for material written in the module, extend the three-hour time period, show the videotape at another session or leave the videotape with the participants to watch as follow-up. See the Specific Information section of each module regarding the videotape for that module. Videotapes may not be copied without written consent of the producer. Information for obtaining videotapes is also provided in the Specific Information section.

Audiotapes

Two audiotapes are recommended for the presentation of Modules 5 and 7. See the Specific Information section of each of those modules regarding the audiotapes. The audiotape presentations have been built into the designated time allotments suggested in each of the module manuals.

MITCH Theme Music

Included on the reverse side of the two audiotapes, one each for Module 5 and Module 7, is a three-minute segment of the MITCH theme music. The instructor may wish to play this as participants enter the session, as a signal to return from the break and/or in any other suitable manner.

Attendance

At the opening session of each three-hour module, participants should sign the List of Participants form (see Appendix A). The instructor should use this form to verify attendance for all three hours of training and completion of the Six-Week Follow-Up Activity.

Six-Week Follow-Up Activity

Three to four weeks after presenting the training module, the instructor, or another person representing the training agency, should contact all participants to remind them to submit their final Six-Week Follow-Up Activity (see Appendix C). This may be done by phone or by mail using the prepared mailer (see Appendix A).

The instructor, or some other qualified person designated by the instructor, should evaluate the quality and content of the performance of the Six-Week Follow-Up Activity by each participant. This may be done by a visit to each participant's place of work or by having each participant mail the completed follow-up activity form to the instructor. The instructor will prepare and give a Certificate of Completion to every participant whose performance meets the instructor's criteria.

Certificate of Completion

Only those participants who attend all three hours of training and who successfully complete the Six-Week Follow-Up Activity are eligible to receive a Certificate of Completion (see Appendix A).

Record of Completion

The instructor should keep the completed List of Participants forms on file in the training agency. Information should be retrievable by the participant's name.

Specific Information for Presenting Module 10

GOALS AND OBJECTIVES

Goal for Hour 1: Participants will gain knowledge of basic nutrition principles and good mealtime practice for the young child.

Objective - Participants will gain an understanding of:

- the basic food groups
- why the body needs nutrients from food
- nutrition risk factors
- physical and social aspects of a good mealtime atmosphere
- practices which instill positive attitudes towards food.

Goal for Hour 2: Participants will gain knowledge of the importance of variety and appropriate portion size in a young child's diet.

Objective - Participants will gain an understanding of:

- why eating a variety of foods is important
- factors that influence amount of food required
- correct portion size for a young child
- planning a menu for a young child.

Goal for Hour 3: Participants will gain knowledge of normal developmental feeding skills and feeding problems.

Objective - Participants will gain an understanding of:

- the normal development of feeding skills
- the feeding problems that may need special techniques.

OTHER RECOMMENDED INSTRUCTORS

Because of the nature of the content of this specific three-hour module, the training agency presenting this module may wish to contact other specialized persons within its local area who are willing to perform this duty, such as:

or registered or licensed

- nutritionist, dietician (Hours 1 & 2)
- occupational therapist, speech and language pathologist (Hour 3).

CONTACT LIST

Persons to contact if the instructor has questions regarding this module include:

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EQUIPMENT, MATERIALS, AND SUPPLIES

Equipment

This module can be enhanced with the equipment listed below:

- overhead projector
- projection screen or alternative
- audiocassette recorder.

Supplies

The instructor should also have the following supplies available:

- chalk
- crayons or markers
- overhead (transparency) pens
- chart paper
- extension cord
- 3 prong/2 prong adapter plug
- masking tape
- transparent tape
- thumb tacks
- extra batteries
- extra pencils for participants.

Materials Contained in This Manual

The following materials are contained in this manual:

- reproducible forms (Appendix A)
- reproducible handouts/overheads and booklets (Appendix B)
- reproducible Six-Week Follow-Up Activity forms (Appendix C).

Videotape

No videotape accompanies this module.

Materials Not Contained in This Manual

In order to present this specific three-hour module, the following materials, which are not included in the packet, need to be obtained by the instructor:

- activity situations - see following pages (Hour 1)
- food models, optional (Hour 2)

Note: **Directions for the use of these food models are not written into the text of this module. However, the models can add considerable interest which will enhance the lecture/discussion of hour 2.**

- dicem, optional (Hour 3)
- adaptive spoon, optional (Hour 3)
- several scissors and paper cups for making nose cup - see following pages for directions (Hour 3).

Note: **The above materials (food models, dicem, adaptive spoon) are available for loan through local FDLRS Associate Centers or the Clearinghouse/Information Center, Florida Department of Education, Bureau of Education for Exceptional Students, Room 622 - Florida Education Center, Tallahassee, FL 32399-0400; (904) 488-1879; Suncom/278-1879.**

A two-year-old child is taking food from everyone else's plate and not eating his own food.

Module	Hour	Activity
10	1	1a

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*MITCH: Model of Interdisciplinary Training for Children with Handicaps

MITCH*

A three-year-old child refuses to use a spoon and insists on eating with her hands.

Module	Hour	Activity
10	1	1a (con't.)

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MITCH*

*MITCH: Model of Interdisciplinary Training for Children with Handicaps

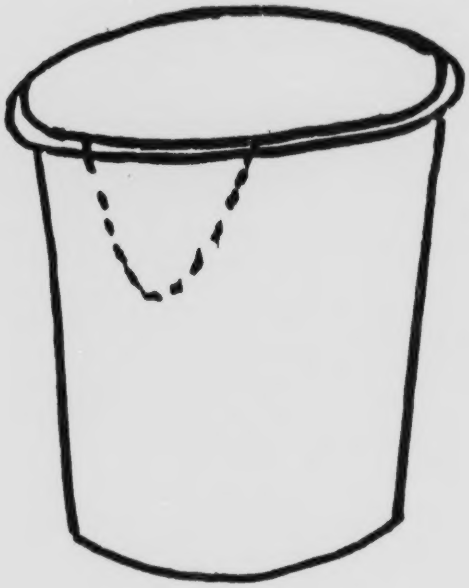
A 20-month-old child leaves the table during the meal to go to a play area.

Module	Hour	Activity
10	1	1a (con't.)

Directions for Making Nose Cup

Make a cutout in a paper cup approximately 1-1/2 inches deep and 1-1/2 inches wide at the top to match illustration below. Then ask each participant to follow your example. They may want to experiment with a paper cup to find the correct size before they cut a plastic cup.

When drinking, children put the uncut lip of the cup into their mouths. When the cup is tipped up for drinking their noses fit into the nose holes. This allows the caregiver to see in and monitor the amount of liquid that is being given. More importantly, children do not become frightened by a cup that comes up to cover the nose.



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Module 10
NUTRITION AND FEEDING PRACTICES:
What You Need To Know

Hour 1

Goal: **PARTICIPANTS WILL GAIN KNOWLEDGE OF BASIC NUTRITION PRINCIPLES AND GOOD MEALTIME PRACTICE FOR THE YOUNG CHILD.**

Objectives- ***Participants will gain an understanding of:***

- the basic food groups
- why the body needs nutrients from food
- nutrition risk factors
- physical and social aspects of a good mealtime atmosphere
- practices which instill positive attitudes towards food.

5 minutes **GREETING, SIGN IN, AND DISTRIBUTION OF HANDOUTS**

SESSION BEGINS

5 minutes **LECTURE/DISCUSSION: What We Eat and Where We Eat**

Say: We eat to live, but most of us also eat for pleasure. There are certain foods we like to eat, and certain foods that we don't like to eat. Eating is associated with celebrations, family occasions, religious occasions, and also times of sadness. Some of us like to eat when we are alone, and some of us like to eat when we are with a crowd of people. Eating is a very individual activity and we all have particular preferences when it comes to what we eat and where we eat it.

Instructor asks participants the following questions, and allows time for everyone's response:

- How many times a day do you eat?
- What do you drink with a meal?
- How many people like to drink milk?
- How many people like to drink water?
- How many people like spicy food?
- How many people like Italian food?
- How many people have food allergies?
- How many people have stomach problem that keep them from eating certain foods?

Instructor discusses and summarizes the feelings and responses of the participants in the group. Point out that some people like to drink milk, some people don't. Some people like spicy foods, some people don't. Everyone has a preference about what they like to eat and don't like to eat. This is also true for all children, including the at risk child. Our tastes and preferences for food begin at a very young age. We need to learn to respect a child's food preferences and individuality.

Say: From our previous discussion, we have learned that we all have different foods that we like to eat, and different times of a day that we like to eat. All of us in this room are fully grown, we do not expect to get any taller, and we hope not to gain too much more weight.

Children are different. During the first year of life, children will grow more than at any other time in their lives. The first three years of life is a period of tremendous growth and development, and therefore nutrition is very critical for the young child. The young child must get adequate nutrition and must eat a correct amount of food to reach full growth potential. Also, during this early period of life, children develop very strong feelings about what foods they like and don't like.

We are going to discuss the basic food groups, and why the body needs to get nutrients from food. We will also discuss how to develop a relaxed mealtime atmosphere and how to help children create a positive attitude towards food.

After this session you will be able to:

- name the basic food groups
- discuss why the body needs nutrients from foods
- name nutrition risk factors that indicate the need for a nutrition assessment
- name physical and social aspects of a good mealtime setting
- discuss practices used to instill positive attitudes toward food.

Say: The benefits to you of this session are:

- You will be able to understand the categories of food and how to choose food from the different groups.

- You will understand why the body needs nutrients from food.
- You will recognize nutrition risk factors.
- You will be able to recognize the characteristics of a good physical environment for eating.
- You will be able to help children develop practices that will instill a good positive attitude towards food.

20 minutes **LECTURE/DISCUSSION: Nutrients and the Food Groups**

Say: Food is more than something to eat, taste, and enjoy. Food provides us with nutrients, which are the materials needed by our body. Nutrients give us energy and promote the growth and health of our bodies. There are three main classes of food from which we get nutrients: fat, carbohydrates, and protein. Carbohydrates and fats are the main nutritional sources of energy. Protein can also be used for energy, but it is mainly used to promote growth and maintenance of body tissue.

Let's discuss which foods are high in which nutrients. All of the following nutrients contain calories.

Instructor writes *Protein* on chalkboard or flipchart.

Ask: What foods are high in protein?

Responses should include meat, chicken, fish, and dairy products.

Instructor writes *Fat* on chalkboard or flipchart.

Ask: What foods are high in fat?

Responses should include butter, margarine, oil, and mayonnaise.

Instructor writes *Carbohydrates* on chalkboard or flipchart.

Ask: What foods are high in carbohydrates?

Responses should include bread, spaghetti, macaroni, fruits, and vegetables.

Handout/
Overhead
10-1-1

Instructor refers to and reviews **Handout/Overhead 10-1-1**.

Say: Vitamins and minerals are also nutrients but they do not contain calories. They perform very important functions in the body.

All of the nutrients needed by our bodies are found in food. However, no one food contains all the needed nutrients. We must eat a balanced diet in order to obtain all the necessary nutrients. Some people think they can buy nutrients in a bottle and get a balanced diet by taking vitamins. But food is still the best source of nutrition.

Food groups

Say: Since we get our nutrients from the foods that we eat, it is important to use foods which provide all of the essential nutrients. Making smart food choices is easier when using a food group guideline.

Instructor asks the group to name the five food groups and writes the responses on the chalkboard or flipchart. The list should include:

- milk and cheese group
- vegetable and fruit group
- bread and cereal group
- meat, poultry, fish, and bean group
- fats, sweets, and other group.

Ask: Butter is made from milk. What food group is it in? Why?

The correct answer is that butter is in the fat group, since it is 100% fat.

Ask: Why is it helpful to know the basic food groups? How can you use this knowledge to choose the foods that you eat?

Responses should include:

- The basic food groups serve as a guideline to insure that we get all of our nutrients.
- If we pick a few foods from each group we can ensure adequate nutrition for a child.
- Knowledge of the basic food groups helps us make decisions about foods. But we need to make careful choices from the food groups.

Handout/ Overhead 10-1-2

Instructor refers to **Handout/Overhead 10-1-2**.

Say: It is possible to eat foods from the basic food groups on a daily basis and still not get all the nutrition needed. It is important to eat a large variety of foods from each group, to ensure that one is getting all the essential nutrients.

Although you choose foods from each group, some food choices are better than others. It is better to eat whole wheat grains and whole wheat bread than white bread that is made with only part of the wheat. It can be more nutritious to eat fresh fruits and vegetables, from the fruit and vegetable group, than preserved fruits and vegetables. Frozen food is better than canned food for supplying nutrition.

We are now going to discuss what we get from each food group.

Handout/ Overhead 10-1-1

During the following discussion, instructor should refer back to **Handout/Overhead 10-1-1** when appropriate.

Instructor writes *Milk and Cheese Group* on chalkboard or flipchart.

Say: The main nutrient we get in the milk and cheese group is calcium. Does anyone know what calcium does for the body?

The correct response is that calcium builds strong healthy bones and teeth.

Say: Milk also contains protein that helps in the growth and repair of all body tissues.

Ask: Why does a young child need more servings from the milk and cheese group than an adult?

The correct answer is that a young child's bones are growing more; therefore, requiring more calcium from the milk and cheese group.

Instructor writes *Bread and Cereal Group* on chalkboard or flipchart.

Say: The most important nutrients in the bread and cereal group are carbohydrates, iron, and B vitamins. Carbohydrates give our body easily used energy. The B vitamins help our body use the energy. Bread and cereals are enriched with iron which helps our bodies have strong blood.

Carbohydrate foods also give us fiber. Fiber helps us have regular bowel movements. Some children who have poor muscle tone, such as those with Down Syndrome, have trouble going to the bathroom. The way to help them, is to give them more food with carbohydrates, and give them more things to drink. The best foods to give them are whole wheat bread, other whole wheat products, fruits, and vegetables.

Instructor writes *Vegetable and Fruit Group* on flipchart or chalkboard.

Say: Although there are many different vitamins and minerals in vegetables and fruit, the ones that we want to discuss are vitamin C and vitamin A. Vitamin C helps the body use iron and heal wounds. Vitamin A helps us maintain healthy skin. Foods from the fruit and vegetable group also contain carbohydrates which give the body energy, and help the body with elimination.

Instructor writes *Meat, Poultry, Fish, Bean Group* on chalkboard or flipchart.

Say: This group is a major source of protein and iron. Protein and iron work together to build healthy blood. Protein is also required for growth and repair of body tissue. If people get enough calories, but not enough protein, they will suffer from malnutrition.

Many young children do not like to eat foods that are high in protein. For some children, meat is hard to chew. Other young children do not like to eat fish. Because it is important for children to get enough protein, they should be offered a variety of foods from this group until they find a few favorites. Many children like chicken and chopped meat that you find in hamburgers or spaghetti and meatballs.

Instructor writes *Fats, Sweets, Other Group* on chalkboard or flipchart.

Say: Sugar and fat provide energy. Foods in this group should be eaten in moderation. If a child eats a lot of foods that are high in sugar, this will lead to tooth decay. Foods that are very sticky, will stay on the teeth, and will be even more of a contribution to tooth decay. Some sticky foods are caramel, tootsie rolls, and jelly beans. It is better to eat sticky foods with a meal than by themselves. The chewing the child does for the other food helps clean the mouth. Drinking water after a meal can also help clean the mouth.

If a child eats a lot of foods that are high in fat, like margarine, or some candies, the child may become overweight.

Ask: What are some foods in this group that children like to eat? Can you think of any substitutes for these foods, that a child might like to eat just as much?

Response may include:

- small pieces of fruit instead of candy
- fruit-juice instead of soda-pop
- popcorn without salt and oil
- dry fruit
- raw vegetable sticks
- cheese

- teething biscuits/graham crackers.

Nutrition Risk Check List

Say: Children who have or are at risk for developmental delays are also at greater risk for nutrition problems. Following are guidelines that will give you an indication of when a child needs to be referred to a physician, or registered dietitian for assessment.

Instructor writes *Underweight/Overweight* on chalkboard or flipchart.

Say: This means that by your observation a child weighs much more or much less than expected for that age. If you have access to a scale and a growth grid, the child could be weighed and the weight plotted to see if the child is way above or below the recommended weight. It is not in a child's best interest to be underweight or overweight at any age. Weight problems are part of certain illnesses. Weight problem will need to be investigated by a professional.

Instructor writes *Unusual weight gain or weight loss* on the chalkboard or flipchart.

Say: If there is a child in your caregiving setting that over the course of the year has a noticeable weight gain or weight loss, the child should be referred. Even an overweight toddler should not have a dramatic weight loss. The weight gain in a child of age two or three should be gradual. Sometimes a change in weight is related to a change in caretakers. A new after school babysitter may not be giving the child a snack which could result in weight loss. Perhaps a relative is watching a child overnight and feeding the child high calorie foods. This could be the cause of a weight gain. Illness can also cause a weight loss. A one to three pound weight loss or gain in a young, small child may be serious.

Instructor writes *Refusal to eat or loss of appetite over a long time* on chalkboard or flipchart.

Say: If one of the children in your care consistently refuses to eat a meal, or you see a change in the child's appetite, this might be a reason for referral. It is expected that a child up to age two or three will have food lags, or deviations in appetite. If these refusals last over a few weeks, the child is being put at risk. These refusals can lead to weight loss. Refusal to eat can be related to not feeling well, changing caretakers, or some other problem that needs immediate investigation.

Instructor writes *Increased frequency of diarrhea or constipation* on chalkboard or flipchart.

Say: A change in the bowel habits of a young child, over a few weeks, is cause for a referral. If the child is having frequent diarrhea, the child can also be at risk for becoming dehydrated. Children who have excessive drooling or frequent urinary infections are also at risk for dehydration. If a child is becoming constipated frequently, and having difficulty passing stool, this can often be helped with food changes. The child who is frequently constipated might only need more fluid and fresh fruits and vegetables in the diet.

Instructor writes *Medication* on chalkboard or flipchart.

Say: There are a number of children with developmental delays who also have seizure disorders. These children are on medication to control their seizures. Some of these medications can interfere with nutrition. If a child in your caregiving setting is taking medication and does not eat well, or is not on a multivitamin supplement, then the parents may need to refer the child to a registered dietitian or physician.

There are other signals that you can look for in the child which tell you that the child may not be getting adequate nutrition. The most obvious signs that we have already discussed are weight gain, weight loss, being overweight, or being underweight. These and other signs are listed on your handout.

Handout/ Overhead 10-1-3

Instructor refers to **Handout/Overhead 10-1-3.**

Say: Other signs of nutritional risk include:

- dry skin
- rashes
- changes in hair, hair that easily falls out, bald spots.
- bleeding gums
- cracked, dry lips
- dark circles under eyes
- general feeling of fatigue.

Children with developmental delays often have more illnesses or signs of nutritional deficiency than other children. The most important thing to look for is change. Your observations are valuable, and should be reported if you are concerned.

This section of the presentation has given a description of the five food groups, and which foods are in each group. We have briefly reviewed the functions of the foods and nutrients in each food group, and why it is important for a child to have foods from all the groups. We also talked about signs of nutritional risk. The next section will deal with how to create a relaxed mealtime atmosphere.

Children's very earliest food experiences can influence how they will feel about food for the rest of their lives. Creating a positive eating environment can lead to more positive feelings about food.

10 minutes **LECTURE/DISCUSSION: Mealtime Atmosphere**

Instructor asks participants the following questions and allows time for response and discussion.

Ask: Can you remember your childhood eating experiences?

- With whom did you eat?
- Was socializing part of mealtime?
- Was food ever used as a reward or was a favorite food ever withheld as a punishment?
- How did that make you feel?
- What are some of your favorite mealtime memories?

After the group has answered these questions, instructor summarizes what the most pleasant things were that the participants remembered about eating.

Say: You can make a mealtime more pleasant by planning what you do before mealtime. Children will be more responsive to sitting down to a meal if they have been engaged in a pleasant activity before beginning to eat. If children become restless while waiting to eat, they will be more disruptive at the meal table.

When planning a good eating experience, you must consider the physical and social aspects of the room. Features which help to form a positive mealtime setting include:

- a clean, bright room
- safe and comfortable child-size chairs and tables
- child-size, manageable cups, spoons, and plates.

Serve foods which are attractive and appropriate for a child. Remember to provide a variety of colors, tastes, and textures. Limit servings of sweets.

Young children like to eat with other children. For children two to three years of age, the workable group size is about four or five with one adult. The younger child, birth to two will most probably be fed individually by an adult.

The adult sitting at the table should be a model for the children. The adult should try to eat all foods, be pleasant, and be enthusiastic. If teachers are not available to sit at all the tables, parents or volunteers can be used. The adult is the host, and should treat the children as welcome guests.

Instructor asks participants the following questions and allows for responses and discussion.

Ask: How do you feel about the room where your students are eating?

- What is the first thing you would like to change about that room?
- What could you add to that room to make it more pleasant?

Instructor summarizes participants' responses.

Say: Children can feel accomplishment if they become as independent as possible in handling as many aspects of mealtime as they can. Depending on a child's ability, the child might be able to bring a lunchbox or food to the table, eat independently, clear the table, or help clean up the eating area. The caregiver can help the child by observing the child's level of ability and assigning tasks that are appropriate for that child's skills.

Adults should remember that it takes a young child a long time to develop good table manners and good eating skills. Be realistic and know that small accidents and small spills will happen when young children eat. You are working with children to help them develop better eating behaviors. Remember:

- Giving attention to positive behavior results in more positive behavior. When a child does something that is correct, reinforce that with praise.
- Negative behavior can be lessened by not giving it too much attention. If attention must be given to a negative behavior do it immediately and as unemotionally as possible. Sometimes, a time out, having the child leave the table for a few minutes, would be the appropriate response.
- Avoid using threats, bribes, or calling attention to negative behavior.
- Watch to see what makes accidents happen and make changes that will avoid the problem the next time.
- If a child does not want to eat a certain food, encourage the child to take just one taste. Praise the child's effort to do so.

15 minutes **ACTIVITY: Brainstorming**

Instructor uses activity situation papers **Activity 10-1-1a**, located in the specific information for presenting Module 10 section of the manual.

Activity 10-1-1a

Say: Consider the following situations. Discuss how you would respond to each of them. Include what you might say to the child and what intervention you might recommend.

Instructor may wish to divide the large group into three brainstorming groups. Give each group one problem to solve and report back to the larger group.

When going over these discussion questions, have the participants approach each situation keeping in mind:

- What might be causing the problematic behavior?
- What intervention might be appropriate?

A two year old child is taking food from everyone else's plate, and not eating his own food.

Causes might be that the child:

- is bored
- wants to play
- is not hungry
- wants attention.

Possible interventions include:

- sit next to child
- verbalize desired behavior
- praise appropriate behavior when it occurs
- move child out of reach of other's plates if inappropriate behavior persists.

A three year old child refuses to use a spoon, and insists on eating with her hands.

Causes might be that the child:

- does not know how to eat with a spoon
- cannot use a spoon due to a physical problem
- does not know eating with hands is not acceptable in this setting, although it may be at home or in other settings
- is being mischievous.

Possible interventions include:

- teach child correct use of spoon
- investigate any physical problems that may prevent eating with a spoon
- verbalize spoon-eating expectations

- praise appropriate behavior when it occurs
- allow child to slowly expand time spoon is used and do not expect the child to use it for entire meal until the child becomes more skillful.

A 20 month old child leaves the table during the meal to go to a play area.

Cause might be that the child:

- is not hungry
- is bored
- is finished eating

Possible interventions include:

- return child to table area
- determine if child has had a complete meal, if not, encourage eating; if so, and depending on protocol, allow the child to leave and play elsewhere under supervision, or keep occupied at table with simple games, songs, or finger plays until others are finished.

Say: In this session we have reviewed the basic food groups and why a child needs to eat foods from all of the food groups. We described what will create a better eating atmosphere, and ways to make the eating experience more positive for the young child. The goal of this session has been to discuss ways to make eating a pleasant, enjoyable, and nutritious experience where a child wants to experiment in trying new foods.

5 minutes
(omit if 3-hour presentation)

END OF HOUR 1: Closing

Module 10
NUTRITION AND FEEDING PRACTICES:
What You Need to Know

Hour 2

Goal: **PARTICIPANTS WILL GAIN KNOWLEDGE OF THE IMPORTANCE OF VARIETY AND APPROPRIATE PORTION SIZE IN A YOUNG CHILD'S DIET.**

Objectives- ***Participants will gain an understanding of:***

- why eating a variety of foods is important
- factors that influence amount of food required
- correct portion sizes for a young child
- planning a menu for a young child.

5 minutes
(omit if 3-hour presentation) **GREETING, SIGN IN, AND DISTRIBUTION OF HANDOUTS**

SESSION BEGINS

5 minutes **LECTURE/DISCUSSION: How Much I Like to Eat**

Say: Most people here have heard the sayings - "Eat to Live," or "Live to Eat." Probably a little bit of both is true for most of us. Eating is something vital for our health, but it is also an enjoyable activity. The way that we eat, and how much we eat, changes as we get older. How much we eat is also influenced by how we feel and who we are with.

Instructor asks participants the following questions, and allows time for everyone's response.

Ask: Do you eat more when you have a cold than when you don't?

Do you eat more when you have a fever or when you don't?

Who would you expect to eat more, a football player or a librarian?

Who would you expect to eat more, a 13 year old boy or a 13 year girl?

Say: Different people, of different sizes, different sexes, and different ages eat different amounts. Another influence on how much we eat, is whether we are healthy or sick. Knowing that people of different sizes and different activity levels need different amounts of food will help us plan how much to feed a child, as well as an adult. We must also recognize that every child is an individual, and there are days when that child would like to eat a lot, and other days when the child will not want to eat very much at all. Respecting someone's individuality in regard to eating, will help a child to develop a positive attitude towards food.

From our previous discussions we learned that there are a variety of factors that influence how much we eat, and they can also influence the variety and types of foods that will be in our diet. The first three years of life are a period of tremendous change. It is a period of growth, and a period of learning. Nutrition is essential to achieve that adequate growth. The first three years of life are also the time a child learns to like and dislike certain foods, and learns a manner of accepting new foods. Adequate nutrition is at its most critical point during the first three years of life.

There are factors that will influence how much food a young child needs. Not all children who are one year of age need to eat the same amount of food. Today, we are going to discuss what variety of foods young children need in their diet and why they need a variety of the foods. We will discuss ways to identify what factors influence the amounts they eat. We will also review correct portion sizes for young children and will work on planning menus.

Say: After we finish this hour session, you will be able to:

- discuss why eating a variety of amounts of different foods is important for the young child
- discuss factors that influence nutritional needs
- discuss correct portion sizes for a young child
- plan a menu for a young child.

Say: The benefits of this session are:

- You will be able to understand the importance of a variety of quantities and foods in a young child's diet.
- You will understand what factors influence how much food a child needs.
- You will be able to plan a menu using the correct portion sizes for a young child.
- You will be able to decide how many portions of food a child needs from each food group.

15 minutes **LECTURE/DISCUSSION: Factors Influencing the Amount of Food a Child Needs**

Say: Throughout life all persons need the same nutrients but not everyone needs the same amount of these nutrients. Nutrients are the substances that we get from food that the body uses for energy and growth. There are a number of factors that influence the amount of nutrients that a child needs.

Instructor writes *Activity Level* on chalkboard or flipchart.

Ask: How do you believe activity level will influence the amount of nutrients a child needs?

The response should be that the more active a person is the greater are the individual's needs from food.

Say: Here is an example. Two children are of the same age and size. One is not yet able to walk, while the other is walking and getting into everything. The child who is walking will need more food. The child who has greater muscle tone will also need more calories. The floppy, hypotonic young child usually needs fewer calories.

Instructor writes *Sex - Male or Female* on chalkboard or flipchart.

Ask: How do you think being male or female influences nutrient intake?

The correct answer is that beginning in the pre-teen years males have higher nutrient needs than females. However, from birth to three years, the sex of the child does not influence nutrient intake.

Instructor writes *Size* on chalkboard or flipchart.

Ask: `How do you believe size can influence nutrient intake.`

The correct answer is that size, particularly a difference in muscle development, affects the need for nutrients. Usually the larger the child, the more nutrients the child needs. The more muscular a child, the more nutrients or food the child needs. If there are two children in your care, of the same age and weight and one has been diagnosed as being hypotonic, meaning floppy or having low muscle tone, that child will most likely need fewer calories than the child with normal muscle tone.

Instructor writes *Age* on chalkboard or flipchart.

Ask: `How do you believe age might influence food intake?`

The correct answer is that children are growing at a much faster rate than older people or adults. The infant is growing at the fastest rate of all. If we look at the need for calories and proteins based on a person's weight, then an infant needs twice as much protein for each pound of body weight, and four times the caloric intake as compared to an adult. The rate of growth is the fastest during the first year of life.

Instructor asks participants the following questions and allows time for responses and discussion.

Ask: `Can anyone describe how often a baby eats in the first year of life?`

Responses from participants may include: very frequently, every two hours, or a lot. Some might say that it seems the baby is always eating when awake. This is because the baby is growing so fast and has such great calorie needs.

Say: `Yes, a baby eats very frequently, and sometimes it seems as if eating is the only thing babies do when they are awake. Infant feeding practices are usually divided up by the period of birth to approximately five months of age, and five months of age to 12 months. We will discuss the different types of foods that a baby should be` eating during these two age ranges. You may wish to take notes on your handout.

Handout/ Overhead 10-2-1

Instructor refers to **Handout/Overhead 10-2-1**.

Say: The perfect food for an infant is breastmilk. Today there are prepared infant formulas that are made up to be very similar to breastmilk. These are also an appropriate way to feed a baby. These formulas should be iron fortified. There are also special soy formulas used during infancy. Using an evaporated milk formula, whole milk, skim milk, goat milk, or any other feeding method is not recommended, unless a physician or dietitian recommends this type of formula for an infant with special problems. If one of the children in your program is eating or drinking something other than a regular formula, the parent should be asked who recommended this. If it is a friend or a neighbor, putting the baby on a standard infant formula should be discussed.

Young infants from birth to five months of age, can usually regulate how much formula they need. Young infants should not be on a strict feeding schedule, but should be allowed to eat as their hunger dictates. This will usually end up with the infant being fed every two and one-half to four hours. Every infant has a different feeding schedule and this should be respected. Some young babies of one month of age will only drink two ounces at a feeding, whereas another infant will drink four ounces. There is a great deal of difference between infants in how much they will eat and how often they want to eat. Infants establish what is correct for them.

The way to determine if an infant is eating the correct amount is to look at the child's growth. It is expected that the infant from birth to five months will gain approximately two pounds a month. If the infant is gaining much more than two pounds a month, or much less than that, the child should be referred to the pediatrician or dietitian.

Infants up to approximately five months of age, do not need any whole foods in their diet. Breastmilk or formula is sufficient nutrition. In fact, the very young infant is not physically ready to eat from a spoon. Forcing cereal into the mouth of a one month old, while the child is reflexively spitting it out, is not necessary. In fact, early introduction of solids, can cause babies to decrease the formula intake that is the most important part of their diet.

Ask: How many of you know of infants who are drinking formulas other than the standard formulas? What type of formula are they drinking and why?

What are your observations when you have spoon fed a baby cereal during the first few months of life?

Instructor leads discussion summarizing participants' responses.

Say: We will now discuss feeding the child of five months to one year. At approximately five months of age the child is ready to be given solid foods. All solid foods should be given by spoon. This includes cereal. It is not recommended that cereal be put into a bottle.

The first solid food an infant will usually receive is cereal. It is recommended that rice cereal be given first because that is the least allergenic of any cereal type. Some children will get a rash if they are given a high protein, or mixed cereal. The infant should be given the rice cereal, and if this is tolerated, barley cereal, and then oatmeal. Usually the parent will start with one to two tablespoons of cereal a day. This will be increased depending on a child's appetite. When adding solid foods to the diet, we do not want the formula intake to be dramatically reduced. The formula is still a very nutritious and important part of the infant's diet.

The next food introduced to the infant is either fruits or vegetables. From a nutritional standpoint, it does not matter which food is introduced next. These foods can be either commercial jarred baby foods, or home prepared foods. If these are home foods, they should be cooked without any seasonings, especially salt. Regular table foods can be blended with additional water or milk to make them a similar consistency to the jarred baby foods.

When foods are introduced to the young infant, only one new food should be introduced at a time. This new food should be given for three days, and the child should be observed for any reaction. If there is no reaction after three days, another new food can be introduced.

Ask: Has anyone seen a reaction in an infant from any fruit or vegetable?

Say: After the fruits and vegetables are introduced, the infant can be given meat. The jarred meats are an appropriate consistency for the infant, and it is sometimes difficult to mash up table meat to the same consistency. The infant can be given pure meats like chicken, veal, or beef. It is more economical, and nutritious, to give the infant pure meat and pure vegetables, rather than the mixed vegetable meat dinners. The mixed dinners are not high in protein, and have a high water content. It is expected that by the time an infant is one year of age, the infant will be eating all different types of foods.

It is recommended that an infant stay on breastfeeding or on iron fortified infant formulas until one year of age. It is alright for the infants to start on whole milk at six months, but it is better for them to be on formula. An infant up to two years of age should not be on skim or low-fat milk, unless it has been recommended by a physician or registered dietitian.

There are certain foods that should not be given to the infant under one year of age because they can cause allergic reaction.

Ask: Does anyone know what these foods are?

The expected responses are:

- orange juice
- tomatoes
- wheat
- egg whites.

Other foods that might cause choking or be difficult for the young child to eat include:

- peanut butter
- raisins
- nuts
- popcorn.

Ask: Can anyone describe how two and three year old children eat?

Responses may include:

- they are picky eaters
- they don't like to eat a lot
- they are more interested in playing.

Instructor may comment on responses, adding that children of this age are usually more interested in the environment and learning, than they are in food. This is a normal part of development.

Say: The toddler, a child of two to three years, is less interested in food, and may not be eating much. It is very important that everything the child of this age does eat is nutritious and of high quality. A child in this age group, should not be eating large quantities of foods that are nutritionally poor like sodas, chips, and candies. For children in this age group, you want to feed them natural foods like fresh fruits and vegetables, whole grain breads and cereals, and chicken, fish, and meat.

You do not want to force a child of two to three years of age to eat more than the child wants. Remember that a toddler's growth has slowed since infancy, and the child does not need to be eating as much per pound of body weight as an infant does. Because the child in this age group is eating smaller amounts of food, it is important that the toddler eats frequently. It is expected that a child in a two to three year age group, eats at least five times a day. They require three meals and two nutritious snacks.

Instructor reminds participants that no one food contains all the nutrients our body needs.

Say: This section of the presentation has given a description of factors that influence what a child eats and how much infants should eat. We discussed what factors have an influence on nutrient intake. The next section will deal with specific amounts of foods from each food group that a child needs, and how to plan a menu.

15 minutes **LECTURE/DISCUSSION: Variety and Meal Guidelines**

Say: A young child's appetite has many more fluctuations than does an older child's or adult's appetite. There are many reasons why a young child has changes in appetite, and in the way the child eats. A few of these reasons are:

- Sometimes the child just does not attend to a task for a very long period of time, and does not pay attention to eating a large meal.
- Children do not like to eat foods that are unfamiliar to them. If something is served at preschool that the child does not receive at home, the unfamiliarity might cause the child to refuse the food.
- Children use food to show independence. They might refuse food just to exert power over the adult or a situation.
- A child's appetite is sensitive to how the child is feeling. If unhappy, the toddler might eat less.

Say: Since all of these factors influence a child's eating behaviors, feeding children is very challenging. Everything must be done to make the food as appealing as possible, and to encourage children to eat the appropriate amounts of good, nutritious foods. We would also want to expand the variety of food choices in a child's diet. It would be beneficial to introduce them to foods that are good for them, and that they might not have had a chance to try.

There are a variety of things that you can do to make the mealtime and the foods more appealing for the young child. You may wish to take notes on your handout.

Handout/ Overhead 10-2-2

Instructor refers to **Handout/Overhead 10-2-2**.

Instructor may use food models throughout the following section to demonstrate and reinforce concepts. Instructor may also ask participants to select foods to illustrate what is being said.

Instructor writes *Color* on chalkboard or flipchart.

Say: Color can add eye appeal to the foods. One should try to have foods of different colors.

Ask: What would be a typical meal that we might see in a preschool that has no color in it?

Responses may include chicken, mashed potatoes, and biscuits.

Ask: How would the children feel about eating that meal?

Ask: Can you describe a meal that a young child might eat that would have color in it?

Response may include, chopped meat, carrots, and corn bread.

Ask: How does this meal compare to the previous one?

Instructor writes *Texture* on chalkboard or flipchart.

Say: Texture in the meal means that all the foods do not have the same consistency. We can have foods that are moist, tender, crisp, soft, or chewy.

Give an example of one or two foods from each of these groups.

Instructor writes *Flavor* on chalkboard or flipchart.

Say: Meals for a young child should have a variety of flavors to them. For example, serve something with a stronger flavor and something with a mild flavor.

Instructor asks the group to describe foods that have differences in flavor.

Instructor writes *Shape* on chalkboard or flipchart.

Say: Children often find contrasting shapes in food interesting. They also like foods that are cut into small sizes because these are easy to manipulate.

Before discussing the specific amounts and types of foods that a child needs in each meal served at a preschool, we are going to discuss general guidelines to make those meals healthier.

Since all foods have different nutrients in them, it is important to eat a variety of foods to ensure adequate nutrients and no deficiencies. This means that when it is suggested that a child eat a fruit every day, we do not use the same fruit every day, but serve a variety instead.

Use more whole grains and cereals in the diet. These provide more fiber which, along with increased liquid intake, help the young child go to the bathroom more easily. Children with low muscle tone often have problems with constipation. Also, whole grains and cereals have a number of minerals in them that are not in white bread.

Limit the use of sugar and salt in the diet. A diet that is high in sugar can cause cavities. A diet that is high in salt might get the child used to eating very salty foods, and the toddler might start adding salt to everything. Salt can contribute to hypertension (high blood pressure).

Serve the child fruits that are high in vitamin C every day. Because the body does not store this vitamin, we need a daily supply of vitamin C. Foods that are high in vitamin C are juices that have been enriched with vitamin C, citrus fruits like orange and grapefruit, cantaloupe, green pepper, strawberries, and broccoli.

Serve a fruit or vegetable that is high in vitamin A at least every other day. Good food choices for vitamin A are dark green leafy vegetables like collards, mustard greens, and kale; also carrots; broccoli; cantaloupe; butternut squash, or any other dark yellow or orange vegetable.

There are specific guidelines for planning the types of foods that should be in a young child's meal. Using these guidelines helps to ensure that children are getting the correct and appropriate amounts of food for their needs at any particular age.

**Handout/
Overhead
10-2-3**

Instructor refers to **Handout/Overhead 10-2-3**.

Say: This guideline simplifies what a child needs for each meal that is served at a preschool program.

A breakfast meal should include a serving from the milk and cheese group, and a serving from the fruit and vegetable group. A lunch or supper meal should include a serving from the milk and cheese group, a serving from the bread and cereal group, two servings of different foods from the vegetable and fruit group, and a serving from the meat, poultry, fish, and bean group. A snack should include servings of food from at least two of these four food groups.

Ask: Is this meal pattern similar to the one that you are serving in your preschool?

Handout/ Overhead 10-2-3

If there are any differences, ask participants to describe them.

Instructor refers again to **Handout/Overhead 10-2-3** and discusses guidelines for serving sizes and number of servings per day.

Say: A young child's appetite and capacity for food at each meal is much smaller than that of the adult. This is why it is very important that the serving of food that is given to the young child be appropriate for a toddler's age and size. If the child is given an adult size portion, the child might become so discouraged from seeing so much food on the plate that the child will not eat anything. It is much better to serve the young child a small portion, and let the child ask for more if the child is still hungry. It encourages a successful feeling when the child can finish all the food that has been served.

Instructor asks the participants to review the serving size list.

Say: On the serving size list we see that the portion sizes are divided for the children according to their weight. In the milk group, which should be served four times per day, the serving size for fluid milk is a half of a cup (4 ounces) for the 20 to 35 pound child, and three fourths of a cup for the 35 to 60 pound child.

The serving size from the meat, fish, chicken group is two tablespoons (one ounce) of meat for the 20 to 35 pound child and two ounces of meat for the 35 to 60 pound child.

As you can see looking down the list, the portion sizes are much smaller than what you would expect to see for an adult.

In the bread group, a serving of bread for the 20 to 35 pound child is half of a slice and for the 35 to 60 pound child is one slice of bread. A serving size for rice or pasta is a quarter of a cup for the 20 to 35 pound child and 1/3 to 1/2 cup for the 35 to 60 pound child.

Ask: In your caregiving setting, does someone measure out the portion sizes of the children's meals?

Is there much food wasted at your setting by serving portions that are too large?

15 minutes

ACTIVITY: Planning a Menu

Handout/ Overhead 10-2-4

Have the participants divide into small groups of two to three people, depending on the size of the entire group. Tell them that they will be given 10-15 minutes for planning three days worth of meals (breakfast, lunch, and snack) for the children in their caregiving setting. Tell them to use the guidelines for foods in the meal selection and for serving amounts. Remind them to keep the foods varied in flavor, texture, size, and color. Participants may use **Handout/Overhead 10-2-4** for menu planning.

After the group has had time to work on their menus, come together in a large group. Ask for volunteers from each group to put some or all of their menus on the chalkboard or flipchart. Ask the large group if each meal fulfills the guidelines for requirements for types of foods and amounts. Ask the group to comment on the variety of color, texture, and shapes in the planned meals. Encourage participants to copy down menus for later use.

Ask the group what they experienced when trying to plan these menus. For example: Was it difficult to add variety? Was it difficult to keep the meals interesting?

Summary

Say: In this session we have reviewed why a young child needs a variety of foods and what factors will influence how much that child is eating. We described what the appropriate portion sizes were, and what foods to include in the child's breakfast and lunch. The goals of this session were to be able to serve a meal that is appropriate for a child's age, size, and level of interest in food.

Here is a booklet that will provide you with more information regarding nutrition.

Handout/ Overhead 10-2-5

Instructor refers to **Handout/Overhead 10-2-5**: *Nutrition and Handicapped Children, A Handbook for Parents and Teachers.*

Instructor may wish to review contents of booklet if time allows.

5 minutes **END OF HOUR 2: Closing**

Module 10
NUTRITION AND FEEDING PRACTICES: What You Need to Know

Hour 3

Goal: **PARTICIPANTS WILL GAIN KNOWLEDGE OF NORMAL DEVELOPMENTAL FEEDING SKILLS AND FEEDING PROBLEMS.**

Objectives - ***Participants will gain an understanding of:***

- the normal development of feeding skills
- the feeding problems that may need special techniques.

5 minutes
(omit if 3-hour presentation)

GREETING, SIGN IN, AND DISTRIBUTION OF HANDOUTS

SESSION BEGINS

15 minutes

LECTURE/DISCUSSION: Normal Development of Feeding Skills

Say: During this hour of our three-hour module, we are going to talk about the development of normal feeding skills. We will also discuss feeding problems that children demonstrate which require special techniques. When I say feeding problems, I am not talking about behavior problems, or difficulties because of children's preference for or allergic reactions to certain foods. This hour will concentrate on the physical aspect of feeding and problems that can arise in this area.

Normal Reflexes

Say: Normal oral-motor or feeding by mouth behavior begins when the fetus, or baby in the womb, is just a few weeks old. Think of it! Even then the baby has feeding reflexes. Reflexes are involuntary, normal body responses. They require no thinking or planning on the part of the baby. They are not learned. They come naturally. A baby has some of these before being born, while the baby is still in the womb.

A baby also has reflexes postnatally, or immediately after being born. Reflexes are present in the baby for varying amounts of time. Let's talk about some of these reflexes. You may wish to take notes on your handout.

Handout/ Overhead 10-3-1

Instructor refers to **Handout/Overhead 10-3-1.**

Instructor leads discussion regarding the following material, being careful to clarify all terminology and asking questions of participants to make sure they understand concepts presented.

Say: Normal infant feeding reflexes include:

- Rooting reflex - This reflex persists from birth to three or four months. It can be seen in sleeping infants up to seven months. The reflex is the simple turning of the head to touch when the stimulus is applied in a light stroking manner in the corner of the infant's mouth. This can be caused by a finger. However, the touch of the breast or bottle is what normally stimulates this response. This is nature's way of making certain an infant eats.
- Suck swallow reflex - The normal duration of this response is from birth to four to five months of age. When tactile stimulation, or touching, is applied to the infant's lips by the nipple of a bottle or mom's breast, the baby's lips close. This is followed by a rhythmical movement of the tongue and jaw. This enables the infant to obtain food. Usually, three repetitive sucks followed by a swallow make up the rhythmical pattern.
- Protective gag reflex - This is an oral reflex that is normally present at birth. It gradually becomes weaker when chewing occurs but it does persist throughout life. Touching the back portion of the tongue or soft palate will normally elicit the reflex. If this gag can be elicited in any other place in the oral cavity, it is said to be a hyperactive gag. This is not a normal reflex or response.
- Bite reflex - This reflex is seen at birth and gradually diminishes or lessens around four to six months when rotary chewing develops. The bite reflex occurs when the child automatically bites down, or closes the mouth, on a spoon or other object when the lips or gums are touched.

- Chewing reflex - A rhythmic opening and closing of the mouth is elicited by direct application of pressure on the gums, teeth, or tongue.

Say: Now, let's talk about the normal development of these feeding skills.

Instructor leads discussion to include the following information. Instructor may ask participants to supply information before confirming it.

0-2 months:

- sucks well from bottle or breast
- coordinates sucking, swallowing, and breathing.

3-5 months:

- sucks and swallows pureed food from spoon
- normal rooting reflex begins to disappear
- gums or mouths pureed food
- has greater control of bite reflex.

6-8 months:

- gums and swallows cracker
- closes lips on spoon to remove food
- drinks from cup with help
- picks up spoon
- chews with side-to-side tongue motion.

9-11 months:

- finger feeds
- bites cracker
- chews cracker
- licks food off spoon
- eats mashed table food
- stops drooling (if not teething)

- swallows with closed mouth.

12-15 months:

- feeds self with spoon (many spills)
- picks up and drinks from cup (some spilling)
- chews well.

16-19 months:

- drinks from cup with assistance
- eats with spoon independently (entire meal)
- discriminates edibles.

20-23 months:

- unwraps candy
- peels or pits fruit
- sucks through straw.

24-35 months:

- begins to use fork
- gets drink with help
- spoon feeds (no spilling).

Say: We have talked about what comes naturally to a child regarding feeding behavior. Let's talk about some ways we, as caregivers, can assist the child.

Ask: How many of you think about positioning during feeding? How important is it?

Instructor listens to responses.

Say: Positioning is very important during feeding. It can be the key to how well the children eat or feed themselves. The best position for feeding is one in which the child's head is erect with shoulders held slightly back. Arms should be in front of the body and the hips and knees bent. Legs should be slightly pointing outward and feet should be supported. Basically, a child should be sitting upright with head at midline and the back supported.

If the child is unable to assume or maintain a proper position, support is necessary in order to control the parts which the child cannot control. Now you know why it is important for toddlers to have child-sized chairs with backs. It is essential to maintain the head in the midline. Head control is important to provide the best opportunity for the development of oral skills.

A common position for a small baby is one in which the baby is semi-reclined in the adult's arms with the head slightly bent forward. It is always important for the baby's head to be raised so that the baby can swallow properly and so that no fluid collects in the child's mouth and/or tubes leading to the child's ears. This is why you don't want to give a bottle to a baby when the baby is lying down going to sleep. If you do, fluid can collect in the child's mouth or tubes leading to the child's ears.

Ask: What can happen if milk or fluid collects in the child's mouth or the tubes leading to the child's middle ear?

Response: This can lead to cavities and/or to ear infections.

15 minutes **LECTURE/DISCUSSION: Feeding Problems**

Say: Any child may have a problem with feeding and may require special help.

Handout/ Overhead 10-3-2

Instructor refers to **Handout/Overhead 10-3-2**.

Say: Let's talk about some feeding problems you may see.

Tactile Sensitivity

Say: A tactile sensitive child is oversensitive to touch or to temperature. In the feeding situation, if the food or spoon is too warm or too cold, or if the child feels only a slight touch around the mouth, the child may go into abnormal reflex responses. For example, the child may bite down on the spoon and not be able to voluntarily release the spoon. (This is due to the tonic bite reflex we talked about earlier that is not seen in normal infants after five to seven months.) Using spoons with a plastic build up helps reduce the ill effects of the biting reflex. Another example is drooling which may increase dramatically as soon as the child feels stimulation around the mouth.

There are degrees of sensitivity that children have. Some show very mild sensitivity. In others, even the sight of the spoon can set off abnormal reflex patterns. This kind of dramatic response is seen in more severely involved cerebral palsied children.

A child with tactile sensitivity requires reducing the sensitivity around the face, lips, and mouth cavity. This must be done slowly and gently. Desensitization should always begin on the trunk, moving to the shoulders, and then to the outer face. Do not begin with the mouth. Some ways this sensitivity can be reduced include:

- encourage the child to explore the face/mouth area with own hands
- gently touch soft stuffed animals around the child's face
- wipe the child's mouth by applying slow, firm pressure in a blotting manner
- brush the child's teeth and gums, gently with an infant toothbrush
- provide different texture food.

If a child you know is hyper-sensitive or very, very sensitive, please get help from a physical therapist, occupational therapist, or speech therapist to help guide you in the feeding of that child.

Inability to chew

Say: The inability to chew is another feeding problem you may encounter. Some children may have difficulties chewing and may require help for this. Chewing requires a rotary or circular motion of the jaw, followed by a swallow. A child with a chewing problem can be helped by placing a piece of dried fruit on alternate sides of the child's mouth. In order for the child to chew the fruit, the child will have to move the tongue from side to side. Hopefully, the rotatory motion will result. It will take some time before a child is able to chew. It is important for the child to keep trying each day by doing exercises such as this. A professional can show a caregiver how to help the child do this.

Tongue Thrust

Say: Actually there are two conditions that are often referred to as tongue thrust.

True tongue thrust is another name for reverse swallowing. The child's tongue comes out of the mouth only when the child swallows. This is an abnormal swallowing pattern. Treatment of this condition is done through manipulation of the tongue and the muscles in the child's throat. This technique must be taught to caretakers by an occupational therapist.

The primitive suck swallow reflex is another condition in which the tongue protrudes from the mouth during eating. It is very different from the tongue thrust that we just talked about although it may look the same to most of us.

This occurs when a child uses the tongue to mash foods against the roof of the mouth instead of using the teeth to chew the food. This is the same reflexive action that is normal in early infancy, but which becomes abnormal when it does not go away after the infant is approximately four to five months old. This primitive suck swallow reflex is sometimes seen in children with cerebral palsy or Down Syndrome. Before trying to correct this problem, please seek help for proper training.

Poor Jaw Control

Say: In the fourth feeding problem, the child demonstrates poor jaw control. It is necessary for the feeder to supply external jaw control. This is a technique wherein the feeder holds the child's jaw and controls its opening and closing during drinking from a cup or chewing.

Handout/ Overhead 10-3-3

Instructor refers to **Handout/Overhead 10-3-3**.

Say: The feeder actually holds and moves the child's jaw. Again, this is a technique that caregivers must learn from an occupational therapist, physical therapist, or speech pathologist. The feeder must be aware of the child's level of functioning and ability to feed so that the amount of assistance given can be lessened as the child learns to function better.

Poor Lip Closure

Say: Many children have difficulty closing their lips around a cup or a straw. This happens either because their muscles are too weak or their muscles are being interfered with by abnormal reflexes. This is usually treated through manipulation of the lips, through use of adaptive cups, and through use of adaptive straw techniques.

Some children display feeding problems that are of a nature as to prevent feeding through the mouth. For example, children who experience severe brain damage may not have the ability to tell their face and neck muscles to move, so they cannot swallow. These children must be fed non-orally. Does anyone know how?

Instructor waits for responses, then continues.

Say: A gastrostomy tube or G-tube provides one means of feeding a child non-orally. A gastrostomy tube is used with a child who exhibits difficulties sucking and swallowing or who is not eating at all.

An incision is made into the stomach cavity. A tube is inserted directly into the stomach. The tube is sutured or firmly attached to the skin. A syringe is attached to the tube and elevated for feeding. Pureed foods are fed through the tube.

Another way children can be fed non-orally involves a naso-gastric tube or N-G tube. When using this method of feeding, a tube is inserted through the child's nostril down to the stomach. A syringe is held above the child. The nutrient, or food, is slowly poured into the syringe bowl. The tube is cleansed with sterile water after every feeding and the tube is changed every four days.

Both the G-tube and the N-G tube feedings are relatively rare and these feedings are generally done by trained medical personnel or a parent. However, let's talk about them for a moment. Can you think of any advantage of the G-tube as opposed to the N-G tube?

Instructor leads discussion to include the following.

Advantages of a G-tube:

- The child's clothing covers the tube area. This reduces negative reactions from other people.

6

- A G-tube allows the mouth to be free for oral stimulation while food enters the stomach. The feeder can reinforce the concept that pleasure and sensations can be experienced through the mouth by touching, mouthing, and sound production. Stimulation by the feeder can help prevent hypersensitivity that can result from the understimulation to the mouth.
- The child can gradually progress to oral feeding once the child's nutritional requirements have been stabilized. Often, G-tube feeding is a temporary technique.

Say: Use of the N-G (naso gastric) tube reduces the gag reflex and can cause irritation to the infant's mouth and throat. This makes the child reluctant to allow anything to enter the mouth when oral feeding is attempted. Therefore, use of the N-G tubes can have a negative effect on oral feeding when it is introduced.

When the swallow reflex is triggered in a child with a N-G tube, the back of the tongue elevates and bumps into the tube. This also is a negative reinforcer for oral feeding.

Feeding can be either pleasant or unpleasant for children. That's why it's very important when any type of problem is noticed to get help and obtain intervention and/or training from an occupational therapist, physical therapist, or speech pathologist. Proper techniques can be shown so you can make feeding time a much more pleasant time for you and for the child.

One other issue that is not exactly a feeding problem, but which is a more general problem, is drooling. As we mentioned, drooling is more or less normal for infants up to approximately a year of age. It seems to be especially heavy when an infant is teething. This is normal.

Drooling also is quite common among older children who display other handicaps such as Down syndrome or cerebral palsy. This drooling can become unpleasant to look at and to deal with. As the child gains better control of the head, jaw, tongue, and lips and of the sensory mechanism of the mouth region, drooling should lessen. This should happen with proper therapy. However, as caregivers, we can also help control drooling by knowing that:

- drooling increases when the child is congested
- sweet foods, milk products, citrus fruits, and juices increase and/or thicken the child's saliva.

Handout/ Overhead 10-3-4

Say: If you see a child who appears to have some feeding problems and you are not sure of what to do, do not hesitate to call for help.

Instructor refers to **Handout/Overhead 10-3-4** and discusses Child Find.

15 minutes

ACTIVITY: Adaptive Equipment

Ask: Are you aware that there is special adaptive equipment that can be used with children?

Handout/ Overhead 10-3-5

Instructor refers to **Handout/Overhead 10-3-5** and leads discussion to include:

- curved spoons for either right hand or left hand - some are weighted, have a built up handle, and/or coated bowl
- scoop plates and bowls - to make scooping easier
- nose-cups - part of the cup is cut out for the nose which enables the child to learn to drink better
- dicem - this is a non-skid piece of rubber like material which, when placed beneath the bowl prevents it from moving when a child is eating
- weighted and/or footed bowls - to help eliminate skid problems and to make scooping easier.

Instructor uses this time to show and pass around dicem and curved spoon.

Activity 10-3-1a

Then, instructor demonstrates making a nose-cup from a paper cup. See **Activity 10-3-1a** in Specific Information for Presenting Module 10 section of this manual. Have each participant also make a nose cup.

Suggest they do this in their caregiving setting with plastic cups which are more durable, heavy, and re-usable if they have a need for nose-cups.

Say: `Adaptive feeding equipment can be ordered from special supply houses.`

Instructor may wish to have some catalogues for display and browsing.

Say: `However, many of these items are also available at local toy stores. If you have trouble finding anything you need, call your local FDLRS Associate Center.`

Instructor may supply additional local resources.

5 minutes **Summary**

Say: `We have just about finished this three-hour training module. I hope that I have added to your knowledge about nutrition, proper eating habits, and feeding. I also hope that you have learned something about the special nutritional and feeding needs of some of our infants and toddlers. This knowledge is important because you may work with now, or in the future, a child who has special feeding needs. If you do, it is important for you to know what to do in order to keep that child in the mainstream.`

Ask: `Can anyone tell me what mainstreaming is?`

Instructor listens to responses. Summarize by pointing out that it is the concept and practice of keeping children who have special needs in the same environment as children who do not display special needs.

Ask: `Can anyone tell me the importance of mainstreaming?`

Instructor listens to responses. Summarize to include the following:

The importance of mainstreaming, involves allowing the child with special needs to engage in activities with children who are "normal." Thus, each child learns from the others. They experience life together and each has an equal opportunity for learning together. Stress that children are children first; that all children have some degree of "special need."

Say: Remember, if you have some doubts or some problems, there is help out there for you. Don't treat any child with special needs any differently from a "normal" child except when special intervention may be needed. Get it for both of you!

5 minutes **Explanation of Six-Week Follow-Up Activity**

Give participants the phone number at which you can be reached should there be any questions regarding the follow-up activity.

END OF HOUR 3: Closing

Resource List

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McClenhan, P., & Jaqua, I. (1976). Cook cooking for kids. Belmont: D. S. Lake Publishers.

Nutrition and feeding for the developmentally disabled, South Dakota Department of Education, Child and Adult Nutrition Services, 700 N. Illinois, Pierre, SD 57501.

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UCP of Birmingham. (1986). Nutritional care for the child with developmental disabilities. Five booklets: 1) Promoting weight gain. 2) Weight control for the over-weight child.3) Oral-motor development and feeding technique. 4) Management of constipation. 5) Meal planning for the childhood years. UCP, 2430 11th Ave. No., Birmingham, AL 35234.

UCP of Minnesota. (1985). Nutrition for children with special needs. UCP, St. Paul, MN.

Adaptive feeding equipment may be obtained from a number of companies including:

Abbey/Foster Medical, 7501 N.W. 36th Street, Miami, FL 33166; phone (305)-592-9455 in Dade and (305)-462-4633 in Broward.

Fred Sammons, Inc., Box 32, Brookfield, IL 60513-0032.

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Appendix A

Reproducible Forms for Three-Hour Module

Form	Copies to make
Instructor's Time Table and Notes (2 pages)	1 per instructor
Advertising Flier	As needed
List of Participants	Varies - usually 6 to 8
Follow-Up Mailer (2 pages)	One per participant
Note: Reproduce mailer as one two-sided page by photocopying the second page on the reverse side of the first. This mailer may be reproduced on agency letterhead.	
Certificate of Completion (1 page)	1 per participant

Instructor's Time Table and Notes

MITCH Module Title: ______________________________

Training Location ______________________________

Date______________________

Instructor ______________________

Preparation

Date	**Task**	**Completed**
____________	Review module	____________
____________	Preview videotape* and audiotape	____________
____________	Arrange for guest speaker*	____________
____________	Set date	____________
____________	Arrange for room	____________
____________	Arrange for A-V equipment*	____________
____________	Advertise	____________
____________	Photocopy all handouts	____________
____________	Prepare any overheads	____________
____________	Collect additional materials	____________

Notes for Training
Hour 1:

Hour 2:

*** if applicable**

Trainer's Time Table and Notes, continued
Hour 3:

Six-Week Follow-Up Activity

Date	Task	Completed
	Copy letters	
	Send letters	
	Collect activity	
	Review activity	
	Copy certificate	
	Prepare certificate	
	Deliver certificate	
	Record trainees who have completed module	
	Maintain List of Participants on file	

Notes:

Coming . . . MITCH Module 10

NUTRITION AND FEEDING PRACTICES:

What You Need to Know

TRAINING
FOR
CAREGIVERS
OF
INFANTS
AND
TODDLERS

Date .... Time ....

Location ....

Training Agency ....

For information and/or registration, call ....

....

....

LIST OF PARTICIPANTS

SIGN IN SHEET
MITCH Module

MITCH module title ____________________
Training date ____________________
Training location ____________________
Instructor ____________________

Hours Attended			
1st	2nd	3rd	*FA

Please PRINT your name, social security number, home mailing address, phone and place of work.

Full Name ____________________ Social Security ____________________
Home Address ____________________
City ____________________ State ____________________ Zip ____________________
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*** Follow-Up Activity completed**

Dear

This is to remind you that the Six-Week Follow-Up Activity for MITCH Training Module # _____

Title: ____

is due _____/ ______/ _____.

Please submit your Follow-Up Activity to:

____

____

____

____

If you have any questions, please call:

___________________________ *telephone* ______________________.

Sincerely,

Staple

Fold #2

From: MITCH Module Training

To:

Fold #1

Certificate of Completion

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____

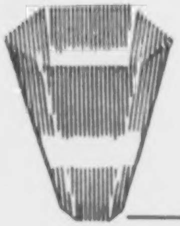
has completed all requirements for MITCH Module 10, entitled:

NUTRITION AND FEEDING PRACTICES:
WHAT YOU NEED TO KNOW

____
Instructor

____
Training Agency

____
Date



This training module was developed by the MITCH Project, the Florida Diagnostic and Learning Resources System/South Associate Center, and the Bureau of Education for Exceptional Students, Florida Department of Education

Appendix B

Reproducible Copies of Handouts/Overheads/Booklets

Note:

Each handout is numbered in a three-digit code such as: Handout 3-1-4. The first digit (3 in example) refers to the module number. The second digit (1 in example) refers to the hour of the Module, while the last number (4 in example) refers to the number of the handout itself. Consequently, the example number above denotes the fourth handout to be used during the first hour of Module 3.

Natural Food Sources for Vitamins and Minerals

SOURCES	FUNCTIONS
Calcium: Milk, greens (turnips, collards), kale, mustard, ice cream, hard cheese, broccoli, sardines, oysters, shrimp, salmon, clams, cabbage, dried peas, beans.	Aids in development of bones and teeth. Maintains healthy nerves and muscle activity. Aids in clotting of blood.
Phosphorus: Meat (especially organ meats), fish, poultry, eggs, cheese, milk, nuts, legumes, whole grain breads and cereals.	Strengthens bones and teeth. Acts as buffer substance in acid-base balance.
Magnesium: Whole grains, nuts, beans, green leafy vegetables.	Aids in development of bones and teeth. Activates enzymes needed to release energy. Regulates body temperature, nerve and muscle contractions, and synthesis of protein.
Sodium: Salt, monosodium glutamate, soy sauce, baking power, cheese, milk, shellfish.	Regulates water and acid-base balances.
Potassium: Meats, milk, dried dates, bananas, cantaloupe, apricots, citrus fruits, tomato juice, dark green leafy vegetables.	Active in muscle contraction. Helps maintain water balance. Promotes regular heartbeat.
Iron: Liver, organ meats, lean meats, egg yolk, green leafy vegetables, whole grain and enriched cereals and breads, beans, nuts, molasses, dried peas, dried fruits (peaches, apricots, prunes, grapes, raisins).	Helps in the production of hemogloblin, which carries oxygen from the lungs to the body cells.
Iodine: Iodized salt, marine fish, shellfish, dried seaweed, cod liver oil.	Helps in the production of thyroid hormones.
Zinc: Whole grain cereals and breads, beans, dried peas, nuts, muscle meats, fish, poultry, eggs, lean meats.	Helps in the production of insulin. Activates enzymes important in transport of carbon dioxide in the blood. Maintains normal taste and smell acuity.
Fluoride: Fluoridated water and toothpastes.	Strengthens the teeth and prevents dental caries.
Copper: Organ meats, shellfish, dried peas and beans, nuts.	Essential for the production of hemoglobin and other body enzyme functions.

Module	Hour	Handout
10	1	1

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Natural Food Sources for Vitamins and Minerals

SOURCES	FUNCTIONS
Thiamin (Vitamin B-1): Pork, beans, peas, liver, lamb, veal, nuts, whole grain and enriched breads and cereals, yeast.	Functions as a coenzyme to promote carbohydrate metabolism. Promotes normal functioning of nervous system.
Riboflavin (Vitamin B-2): Liver, poultry, milk, beef, veal, lamb, pork, eggs, yeast, beans, cheese, dark green leafy vegetables, whole grain and enriched breads and cereals.	Promotes good vision and healthy skin. Coenzyme assisting cells to use oxygen for the release of energy from food.
Niacin (Vitamin B-3): Liver, fish, poultry, lamb, veal, beef, pork, peanut butter, beans, peas, yeast, whole grain and enriched breads and cereals.	Functions as a coenzyme in fat synthesis, tissue respiration, and use of carbohydrates. Promotes healthy skin, nerves and digestive tract.
Pyridoxine (Vitamin B-6): Beef, pork, lamb, veal, liver, kidney, wheat germ, whole grain breads and cereals, soybeans, peanuts, corn, broccoli.	Functions as part of a coenzyme involved in protein metabolism. Assists in red blood cell metabolism.
Folacin (Folic Acid): Liver, yeast, green leafy vegetables, beans, soybeans, nuts, whole grain breads and cereals.	Promotes red blood cell formation, coenzyme in amino acid and nucleoprotein metabolism.
Vitamin A: Liver, butter, egg yolk, sweet potatoes, spinach, carrots, cantaloupe, squash, dark green vegetables, milk, dairy products.	Assists in formation and maintenance of skin and mucous membranes. Functions in visual processes. Promotes bone and tooth development.
Vitamin C: Broccoli, strawberries, tomatoes, melon, dark green leafy vegetables, cabbage, liver, potatoes, canteloupe, parlsey, green and red peppers, citrus fruits.	Forms collagen; hastens wound healing, increases resistance to infection. Aids in use of iron.
Vitamin D: Fish liver oil, fortified milk, sunlight.	Promotes ossification of bones and teeth. Increases absorption of calcium.
Vitamin E: Salad oils, shortening, margarine, green leafy vegetables, wheat germ oil.	Functions as an antioxidant.
Vitamin K: Green leafy vegetable, egg yolk, soybean oil, liver. After the newborn period, humans are able to produce it themselves.	Assists in blood clotting.

Module	Hour	Handout
10	1	1 (con't.)

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Food Groups

MILK AND CHEESE

BREAD AND CEREAL

VEGETABLES AND FRUIT

MEAT, POULTRY, FISH AND BEANS

FATS, SWEETS, OTHER

Module	Hour	Handout
10	1	2

Nutrition Risk Check-List

CHILD SHOULD BE REFERRED TO A PHYSICIAN OR REGISTERED DIETITIAN FOR ASSESSMENT WHEN THE CHILD:

- is unusually underweight/overweight
- displays an unusual and noticeable weight gain or loss
- refuses to eat, or displays loss of appetite for a long time
- increases the frequency of diarrhea or constipation
- is on medication and not eating well.

OTHER SIGNALS:

- dry skin
- rashes
- changes in hair (luster, texture)
- hair that falls out easily; bald spots
- bleeding gums
- cracked dry lips
- dark circles under eyes
- general fatigue.

Module	Hour	Handout
10	1	3

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Feeding An Infant

Birth to 5 Months:

- Infants drink breast milk or iron-fortified formula.
- Infants do not eat solids or semi-solids like cereal.
- Infants usually regulate how much milk or formula they need.
- Infants usually must be fed every two and a half to four hours.
- There is considerable variation in the amount individual infants eat at one time, and in how often they eat.
- Infants should gain approximately two pounds per month.

5 to 12 Months:

- All foods, including cereal, should be given by spoon, not in the bottle.
- The first food should be rice cereal.
  - Next, introduce barley; then oatmeal.
  - Start with one or two tablespoons a day.
  - Continue with formula.
- The second type of food should be either fruits or vegetables.
  - Introduce new foods one at a time.
  - Give food for three days and watch for any reaction.
  - If no reaction, another food may be introduced.
- The third food should be meat.
  - Continue feeding breast milk or iron-fortified infant formulas.

Module	Hour	Handout
10	2	1

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Planning Nutritious Meals

WAYS TO MAKE MEALS MORE APPEALING:

- Serve foods of different colors.
- Serve foods that have a variety of textures.
- Serve foods that have a variety of flavors.
- Serve foods that have small, interesting shapes.

GUIDELINES FOR HEALTHY MEALS:

- Serve a variety of different foods.
- Use whole grain foods.
- Limit the use of sugar and salt.
- Serve fruits high in vitamin C.
    - dark green leafy vegetables
    - dark yellow or orange vetables
    - carrots
    - broccoli
    - canteloupe
    - butternut squash.

Module	Hour	Handout
10	2	2

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Meal Guidelines and Serving Sizes

FOOD GROUPS	FOODS	SERVINGS PER DAY	SIZE OF SERVING BY CHILD'S WEIGHT 20-35 lbs.	35-60 lbs.	60 lbs. plus
MILK* AND MILK PRODUCTS* Calcium Protein Vitamin A Vitamin D	The following have the same amount of calcium as 1/2 cup milk: 1 slice cheese 1/2 cup cream soup 1/2 cup yogurt, custard or pudding.	4	1/2-3/4 cup of milk	3/4 cup of milk	1 cup of milk
MEAT AND MEAT SUBSTITUTES Protein Iron B Vitamins	The following have the same amount of protein as 1 oz. meat: 2 fish sticks 1 egg 1/4 cup cottage cheese 1/2 small meat patty 2 Tbsp. peanut butter 1/2 cup cooked dry peas or beans	2	1 oz. meat (2 Tbs. chopped or pureed)	2 oz. meat	2-3 oz. meat
	Iron-rich protein foods: liver, meat, dry peas or beans				
	Vitamin C rich foods: citrus fruits, tomatoes, cabbage	1	1/4-1/3 cup fruit, vegetables or juice	1/3 cup fruit, vegetables or juice	1/2 cup fruit, vegetables or juice
VEGETABLES AND FRUITS Vitamin C Vitamin A Fiber Folic Acid	Vitamn A rich foods: broccoli, spinach, sweet potatoes, carrots, squash	3 times weekly			
	other vegetables and fruits such as potatoes, apples, green beans, bananas, peas	3 or more			

*Encourage skim if child is overweight. Use whole if underweight.

Module	Hour	Handout
10	2	3

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Meal Guidelines and Serving Sizes (con't.)

FOOD GROUPS	FOODS	SERVINGS PER DAY	SIZE OF SERVING BY CHILD'S WEIGHT		
			20-35 lbs.	35-60 lbs.	60 lbs. plus
WHOLE GRAIN OR ENRICHED BREADS AND CEREALS B Vitamins Iron Energy Fiber	Substitute for 1 slice of bread: 3/4 cup dry cereal 1/2 cup cooked cereal rice, macaroni or noodles Iron rich cereals: Read labels on cartons.	4	1/2 slice bread or 1/4 cup rice, etc.	3/4 slice bread	1 slice bread, or 1/2 cup rice, etc.
OTHER FOODS ** Energy	Nutritious snacks: cookies, pudding, custard, ice cream	0-2	1/2 cookie	1 cookie	1 cookie
	peanut butter and butter on foods	3	1 tsp.	2 tsp.	3 or more tsp.

**Limit if child is overweight. Encourage if underweight.

Module	Hour	Handout
10	2	3 (con't.)

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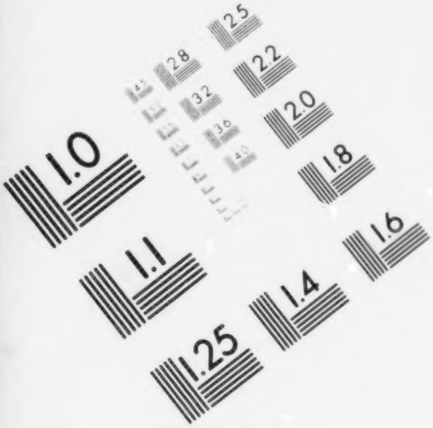

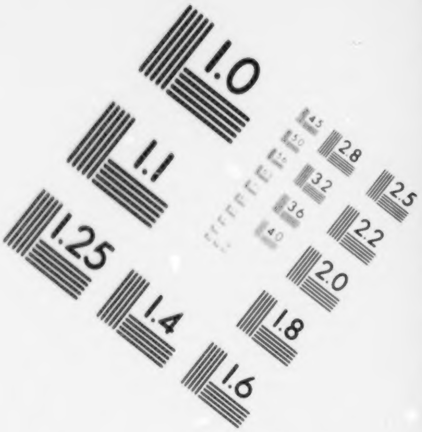

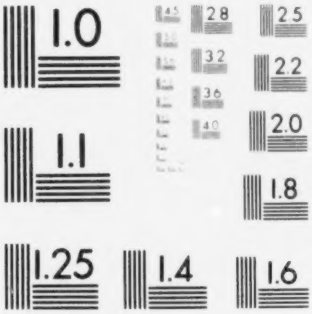

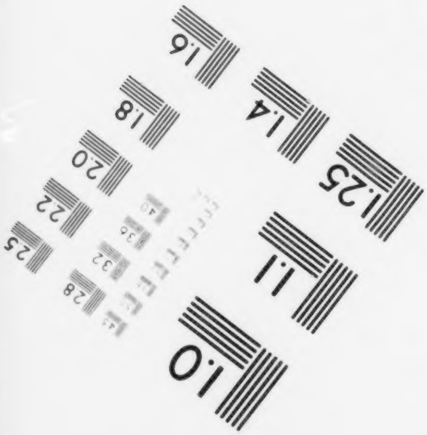

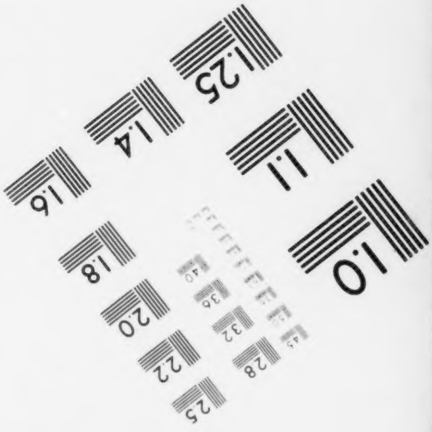

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BREAKFAST					
SNACK					
LUNCH					
SNACK					

Module	Hour	Handout
10	2	4

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Booklet

Nutrition and Handicapped Children

A Handbook for Parents and Teachers

by Nancy S. Wellman, Ph.D., R.D.

and

Sheah Rarback, M.S., R.D.

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Module	Hour	Handout
10	2	5

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Nutrition and Handicapped Children

A Handbook for Parents and Teachers

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PROGRAM

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This project was developed under a grant from the Florida Nutrition Education and Training (NET) Program, Florida Department of Education, to Florida International University, Department of Dietetics and Nutrition. NET funds are provided by the U.S. Department of Agriculture through the Nutrition Education and Training Program (P.L. 95-166), an amendment to the Child Nutrition Act.

This program is available to all persons regardless of age, color, handicap, national origin, religion, race, or sex. Persons who believe they have been denied equal opportunity for participation may write to: Administrator, Food and Nutrition Service, U.S. Department of Agriculture, 3101 Port Center Drive, Alexandria, Virginia 22302.

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NUTRITION AND HANDICAPPED CHILDREN

A HANDBOOK FOR PARENTS AND TEACHERS

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INTRODUCTION

This HANDBOOK provides practical information for parents and teachers regarding common nutrition problems of developmentally delayed children and infants.

Good nutrition is needed for growth and development. Better diets and improved eating behaviors at home and at school are important goals. The HANDBOOK contains nutrition information about some confusing and often misunderstood topics. Methods for developing eating skills are in the recommended books listed at the end of the HANDBOOK.

Public school services for handicapped infants and toddlers and their families were recently expanded through an amendment to the Education of the Handicapped Act (P.L. 99-457).

We encourage teachers, child care providers and school lunch personnel to contact the Food and Nutrition Management Resource Center, Florida Department of Education (305-487-3569) for educational materials. The Florida Nutrition Education and Training (NET) Program sponsors the development of nutrition materials such as this HANDBOOK.

We hope this updated HANDBOOK will help parents and teachers meet the special nutrition needs of their children and students.

NUTRITIONAL RISK CHECKLIST

When should a parent or teacher become concerned about a child's food intake and eating habits? Nutrition problems are often seen in handicapped or developmentally delayed children. Evaluation by a professional nutritionist/registered dietitian, occupational or physical therapist, special educator, or speech pathologist is needed if a child exhibits one or more of the following:

- ✓ Mechanical feeding difficulties
- ✓ Feeding skills below developmental level
- ✓ Marked over or underweight
- ✓ Sudden weight gain or loss
- ✓ Refusal to eat or loss of appetite over a long time
- ✓ Unusual food habits
- ✓ Increased frequency of diarrhea or constipation
- ✓ Allergies or food intolerance that interfere with intake
- ✓ Prescribed stimulant or anti-convulsant medications
- ✓ Outward signs of nutritional deficiencies:
    - Tough, dry, pale, scaly skin
    - Rashes
    - Stringy, dry, brittle, hair
    - Red, spongy, or bleeding gums
    - Dark circles under eyes
    - Missing or mottled teeth, unfilled caries
    - Dry, swollen, cracked lips.

LOSS OF APPETITE AND UNDERWEIGHT

A child's appetite is dependent upon body size and type, rate of growth, physical activity, degree of motor dysfunction, muscle tone, and other physical limitations. Children often lose their appetites during slow growth periods or when they are developing interests at home or in school and eating isn't a priority. This may happen at various stages of development and usually will not put a child at nutritional risk.

Handicapped children may be underweight even with an apparently adequate food intake. Vomiting, diarrhea and malabsorption can contribute to weight loss. Children with athetoid cerebral palsy or congenital heart disease have increased caloric needs.

Children go through periods of refusing to eat certain foods. They may have very particular food preferences. Many want each food on their plate served separately. Foods mixed together or even touching on a plate may be refused. Some will eat one food every day for weeks and then show no interest whatever in that food. Children are on a "food jag" when they narrow their intake to just a few foods. The child's overall eating pattern from month to month is more important to watch since food jags usually don't last long. Because children are more sensitive to temperature, they favor warm foods rather than cold or hot. Some foods cooked one way will be eaten heartily, but refused if cooked another way. Raw vegetables or fruit may be accepted while cooked ones are rejected. If a child refuses to eat a food, try preparing it another way.

Many parents and teachers begin forcing food when appetite decreases. Behavior problems, overweight, and poor eating habits can result. Indicators of an adequate food intake are a child's growth, energy level, and general health.

If a child stays on a pureed diet longer than necessary, interest in food may fade. Parents and teachers should watch for signs of rotary chewing motions indicating that a child may be ready to progress to chopped foods. Practice is necessary to develop good chewing skills.

What can you do when a child is refusing food or is underweight?

1) Introduce new foods when the child is hungriest; first thing in the morning, after an afternoon nap, before or after exercise, or whenever appetite is best.

2) Fortify favorite foods with nutritious add-ons which increase calories without increasing volume.

Food	Calories	Where to Use
powdered, non-fat milk	25 cals/tbsp.	beverages soups cooked cereal mashed potatoes puddings
cheese sliced, cubed, grated	110 cals/oz.	sandwiches snacks casseroles beverages soups purees

Food	Calories	Where to Use
wheat germ	35 cals/tbsp.	baked goods meat loaf casseroles cereals
vegetable oil margarine	126 cals/tbsp.	soups casseroles vegetables cereals crackers
peanut butter	100 cals/tbsp.	snacks baked goods crackers

3) Offer fruit juice instead of punch, diluted with less water than recommended.

4) Check growth pattern. If weight is appropriate for height and child eats a variety of food, there may be no need to worry about a small appetite.

OVERWEIGHT

Overweight results when food intake exceeds the daily energy requirement. Children with limited physical activity and low muscle tone are more likely to become overweight. A non-ambulatory child requires about 25% fewer calories than an ambulatory child of comparable height unless there is another problem such as malabsorption. A child with Down's syndrome, myelomeningocele, or spastic cerebral palsy will need fewer calories. For the child with poor muscle tone, excess weight interferes with coordination and muscle development. Overweight adds difficulty to the management of the non-ambulatory child.

Foods, particularly sweets, are often misused as behavioral awards. Over time these extra foods may add up to extra pounds. Well-intentioned loving persons sometimes over-feed a youngster because they feel sorry for the child or see that eating makes the child happy. A child will also sometimes eat just because of frustration, boredom, or habit if food and snacks are easily available. The health and social consequences of overweight are serious. Avoiding overweight in a child is an important responsibility.

What Can You Do for an Overweight Child?

1. Limit the food intake to slow further weight gain. Serve smaller portions of lean meats, grains and starches. Encourage fresh or water packed fruits and vegetables. Limit fatty meats, gravies, fried foods, sweets, desserts, and salad dressings. Change from whole to non-fat milk or at least mix equal parts together. Dilute all beverages with extra water.

2. Find and encourage physical activity geared to the child's capability. This will not only increase energy expenditure but also provide good exercise experience. Overweight children often have not had the opportunity to develop motor skills. The severe peer discrimination further discourages their physical activities.

3. Avoid using food as a reward. A sticker or gold star is well received by most children. If absolutely necessary, use low calorie foods such hot-air popped popcorn or raw vegetables and fruits.

4. Since most children like to snack, substitute the low calorie and nutritious foods listed below for high-calorie, fattening ones.

VEGETABLES: Mix and Match

Carrot sticks
Celery sticks
Cauliflower buds
Green pepper rings
Mushrooms
Radish roses
Turnip slices
Zucchini sticks
Tomato wedges
Cucumber slices
String beans

FRUITS: Fresh or Canned - Packed in Water

Apples
Pears
Plums
Strawberries
Peaches
Pineapple
Prunes
Pineapple
Bananas
Cherries
Grapes
Grapefruit
Melon
Apricots
Oranges

OTHERS:

Non-fat Yogurt
Hot Air Popcorn (unbuttered)
Cottage Cheese
Skim Milk
Fruitsicles

VITAMIN AND MINERAL SUPPLEMENTS

Interest in good nutrition leads to questions about appropriate diets for children and the need for vitamin and mineral supplements. Many wonder if there is a difference between natural and synthetic vitamin pills.

The body needs only tiny amounts of vitamins and minerals for proper functioning. Since the body doesn't manufacture vitamins and minerals, we need foods to supply them. Vitamin and mineral supplements are **not** usually needed unless a child's diet is **habitually** very limited, possibly during times of extended illness, for specific metabolic disorders, and with certain medications. Since each child needs different amounts of vitamins and minerals, guessing and self-prescribing could lead to dangerous overdosing. Generous amounts of all needed vitamins and minerals are in diets rich in fresh, deeply colored vegetables (green, yellow, and orange), fruits, whole grains, and small amounts of dairy products, fish, chicken, and meats.

All vitamins are manufactured in a laboratory whether they are labeled synthetic (made from chemicals) or natural (chemically extracted from plant and animal sources). The body's use of a vitamin is the same whether it is synthetic or "natural." Store brand vitamin supplements are usually less expensive than highly advertised name brands. Compare labels. When types and amounts of vitamins listed are similar, buy the less expensive brand.

It is definitely better to eat well and get all vitamins and minerals from food. The following list gives good food sources of key vitamins and minerals.

GOOD FOOD SOURCES FOR MINERALS

Calcium

milk, cheese, yogurt
dark green leafy vegetables
dried peas and beans
sardines, salmon

Iron

lean meats, liver
dried peas and beans
nuts, dried fruits
whole grains
dark green leafy vegetables

Zinc

lean meats, fish, poultry
whole grains
dried peas and beans
nuts

Copper

organ meats
shellfish
dried peas and beans
nuts

GOOD FOOD SOURCES FOR VITAMINS

Vitamin A

dark green leafy vegetables
yellow vegetables and fruits
carrots
sweet potatoes
organ meats

Vitamin B_1 (thiamine)

whole grain cereal and breads
organ meats
wheat germ
brewer's yeast
soybeans
peanuts

Vitamin D

fortified milk
exposure to sunlight

Vitamin B_2 (riboflavin)

milk
green leafy vegetables
organ meats
enriched foods

GOOD FOOD SOURCES FOR VITAMINS (continued)

Vitamin E

vegetable oils
nuts
legumes
cereal
milk
eggs

Vitamin C

citrus fruits and juices
strawberries
tomatoes
potatoes
broccoli
bell peppers

Vitamin B_3 (Niacin)

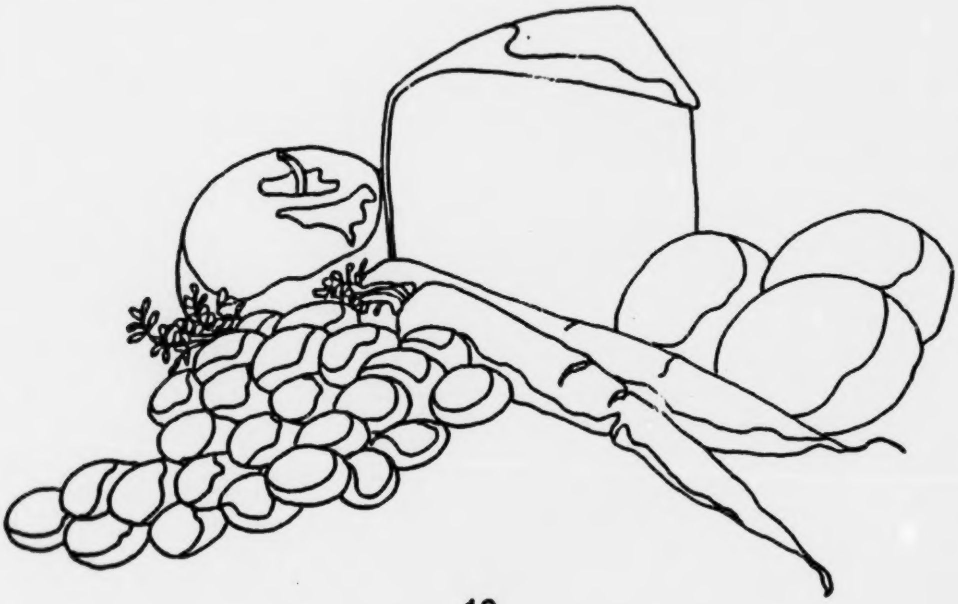
lean meat, fish,
poultry
whole grains
enriched cereals and breads
peanut butter
dried peas and beans

Vitamin B_{12} (cyanocobalamin)

animal protein foods

Folic Acid

dark green leafy vegetables
organ meats, yeast



PICA

Pica is an abnormal craving for nonedible substances. Pica may be caused by exaggerated mouthing behaviors, emotional factors or nutritional deficiencies.

Eating non-foods or mouthing things is common between 12 and 18 months of age. Continuation of this behavior beyond the developmental period or ingestion of dangerous substances may become a serious problem.

A primary concern with pica is lead poisoning from eating old paint chips. Symptoms of lead accumulation develop over 4 - 6 weeks and include loss of appetite, fatigue, irritability, vomiting, and aggressive behavior. Lead decreases iron absorption and anemia can develop. Hyperactivity and learning problems are seen in children with lead poisoning. Treatment of lead poisoning involves an interdisciplinary team. A physician determines lead levels in the blood; a social worker assesses family interaction; a nurse examines the home for environmental contaminants; and a dietitian/nutritionist provides dietary counseling.

You should suspect pica if there is anything unusual in the stool, dye in the mouth, or if a home or furniture has peeling paint. More common non-food items eaten include chalk, dirt, clay and paper.

ALLERGIES

A food allergy is an abnormal reaction following ingestion of food. Allergic reaction symptoms can include wheezing, running nose, bronchitis, vomiting, diarrhea, rashes, itching, dark circles around the eyes and headaches. The allergic reaction depends on how much and how frequently the food is eaten. The most common allergic offenders in children are milk, wheat, corn, chocolate, eggs, fish, nuts, and citrus.

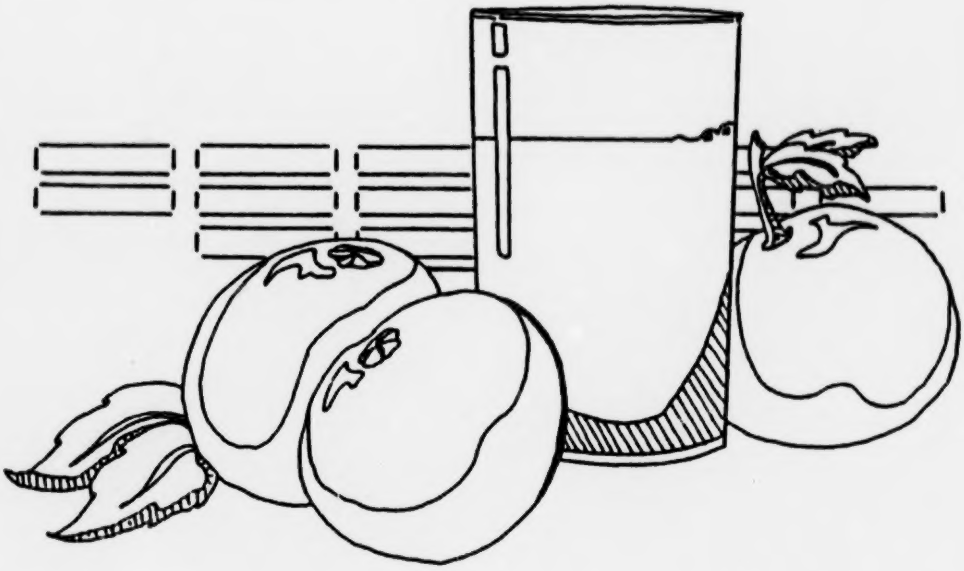
Food allergy is more common in infants due to their digestive immaturity. Infant food allergies are often outgrown during the preschool years. Estimates of the incidence of allergies in children range from 3% to 38%. Allergies often run in families. Testing by an elimination diet is the only definite means of diagnosing a food allergy. Once the offending food is identified, treatment consists of avoidance. After six months, a small amount of the food should be reintroduced to determine if symptoms will reoccur.

Difficult to digest foods, such as high fiber or high fat foods, may cause bloating, cramps, or diarrhea. Food intolerance symptoms can be lessened by eating smaller amounts of the problem food.

If the allergy is severe and requires exclusion of many foods or a total food group from the diet, a nutritionist/dietitian should be consulted to assure an adequate diet. Substitute foods are:

Eliminated Food	Replacement Food
Milk	Soy milk, soy cheese, tofu For calcium - Dark green vegetables, dried peas and beans

Eliminated Food	**Replacement Food**
Orange Juice	Vitamin C-fortified juices/ drinks
Wheat	Rice, oats, barley
Chocolate	Carob



NUTRITION AND DENTAL HEALTH

Tooth decay is a common nutritional health problem in the United States today. Cavities can be painful and expensive to repair. They can cause infection, chewing difficulties and malnutrition. Almost 50% of all children have some tooth decay by age 4 and 90% by age 12. Finding a dentist capable of working with a handicapped child is often difficult.

Cavities are caused by the acid destruction of tooth enamel. Acid comes from fermentation of sugars in the mouth. All natural or refined sugar including white sugar, honey, molasses, brown sugar and raw sugar can cause decay.

The rate of cavity formation is influenced by when the food is eaten. Sugared foods between meals are more harmful than when eaten at mealtime. Sticky foods and candies are more likely to produce cavities. Mannitol, xylitol, and sorbitol have lower tooth decay producing potential, but large amounts of these sugars can cause diarrhea, gas, bloating, or cramps.

Children with developmental delays have a high rate of cavities because of poor brushing habits or techniques, frequent snacking in place of regular meals, and a preference for sweets often supported by overindulgent parents.

To Promote Good Dental Health

1. Drink fluoridated water (1 part per million of fluoride) or give a fluoride supplement until all teeth have erupted.

2. Brush your child's teeth morning and night until you are certain he can do the job very thoroughly himself.

3. Offer sweets only at mealtime or with other foods. Avoid sticky caramel types of candy.

4. Discontinue bedtime and naptime bottles or fill only with water.

5. Recommended snacks and desserts are fresh fruits and vegetables, nuts, cheese and yogurt.

CONSTIPATION

Constipation exists when bowels are moved at less frequent intervals than usual or with difficulty. The frequency of bowel movements varies greatly with each individual and less than once a day is not necessarily a sign of constipation unless it is a change from the usual pattern.

A child's constipation can have many causes. Inadequate fluid intake is a cause for children who are unable to respond to thirst and express a need to drink. Low fiber in the diet, due to a pureed diet or feeding difficulties, is a common cause. Poor muscle tone, as in Down's syndrome, or increased muscle tone, as in spastic cerebral palsy, may contribute to constipation. Decreased physical mobility due to gross motor problems or obesity often leads to bowel irregularities.

Prolonged use of laxatives and enemas is not recommended since this can lead to dependence on them. Mineral oil is not recommended because it decreases absorption of fat soluble vitamins. Even though other laxatives and stool softeners have few side effects they are not recommended for use over long periods. More dietary fiber is the solution.

The following suggestions may decrease constipation:

1. Feed your child at regular mealtimes.
2. Establish a regular sleeping schedule.
3. Increase his or her fluid intake, especially juice and water.
4. Allow ample time for a bowel movement before going to school. Prunes or prune juice at bedtime may help.
5. Encourage participation in daily physical activity to increase intestinal motility.

6. Include these **high fiber foods** in the diet frequently: whole grain bread, crackers and cereal, bran, wheat germ; raw fruits and vegetables (with skins); dried fruits, corn, and prunes; nuts and seeds (sesame, sunflower, pumpkin)-when choking is not a concern.

VOMITING, DIARRHEA AND FLUID LOSS

Vomiting is the expulsion of food from the stomach. Spitting up is normal in infants. Forceful vomiting may be more serious. Diarrhea is increased frequency of bowel movements which are less formed and more watery than normal.

Diarrhea and vomiting may have similar causes such as overfeeding, improper feeding, flu or virus, a physical problem in the digestive system, or stress. Although each child reacts differently, some foods known to contribute to diarrhea are strong green vegetables, corn, dried fruits and bran products.

If your child has diarrhea or is vomiting, offer clear liquids such as broth, water, fruit juices, tea, and popsicles. Give the stomach and intestines a chance to "rest" for up to 24 hours at most. Because vomiting and diarrhea cause the body to lose large amounts of fluids, your child needs to drink more liquids than usual to prevent dehydration. Even children who are nauseated can usually keep down liquids taken a few sips at a time. A general rule is to have your child drink a minimum of 1/4 - 1/2 cup each hour. When there has been no vomiting or diarrhea for six hours, gradually add bananas, rice, toast, apples or applesauce.

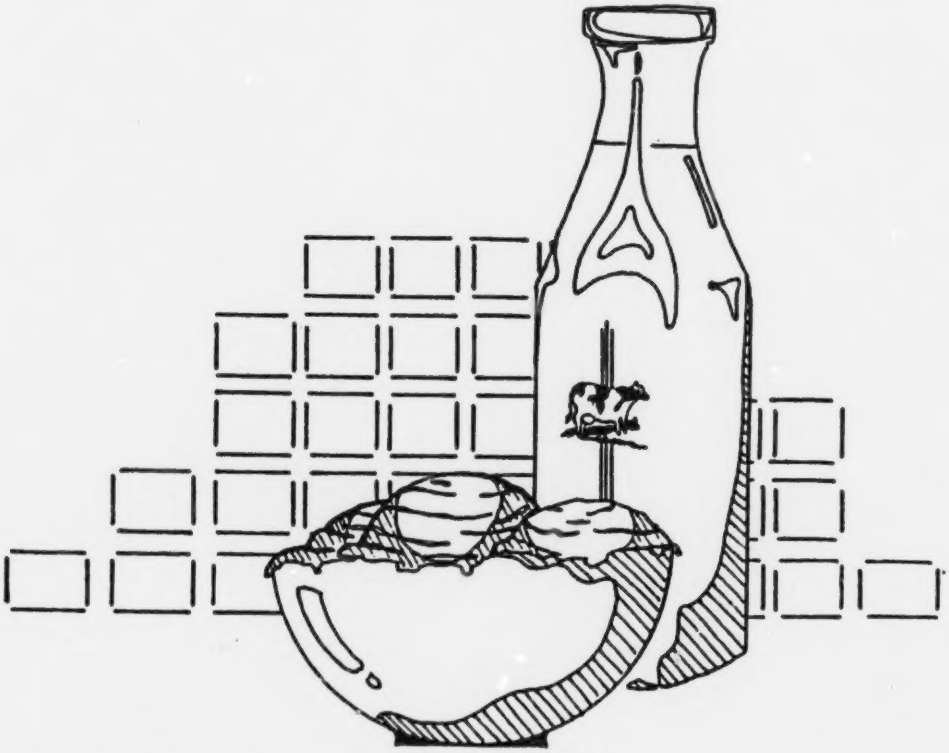
Be sure to call your doctor if symptoms persist beyond 24 hours, if there is a fever over 99 degrees by mouth or 101 degrees by rectum, if there is unusual tenderness in the stomach or blood in the vomitus or stool, or if dehydration is suspected. Signs of dehydration include excessive thirst, drowsiness, increased breathing or pulse rate, and loss of appetite.

Some children need extra fluid on a regular basis. These include children who drool heavily or have difficulty drinking liquids, are on tranquilizers and anti-convulsants, who ruminate or vomit frequently, or who have difficulty swallowing.

To Increase Fluid Intake

1. Encourage foods that become liquid at room temperature: ice cream, sherbet, gelatin desserts, popsicles.

2. Serve foods which contain large amounts of fluids: soups, fruits, vegetables, dairy products.



GAGGING AND RUMINATION

Normally, the gag reflex is stimulated by touch on the back of the tongue. The gag reflex protects the esophagus and prevents inappropriate food from being swallowed or inhaled.

Weak and strong gags can contribute to feeding problems. A very weak gag reflex must be strengthened to prevent aspiration and choking. The normally strong infant gag reflex generally weakens once chewing begins. If this does not occur, this gag interferes with feeding.

Often developmentally delayed children are hypersensitive in the mouth area. As a result, new food textures, tastes or temperatures cause a gagging reflex. Because this hyperactive gag makes swallowing solid foods very difficult, and sometimes impossible, it should be inhibited.

If hypersensitivity in the oral area seems to be the main cause of gagging, a desensitization program should be started. This generally requires the guidance of an occupational, speech, or physical therapist. The child should begin a program of oral normalization, initially in the less hypersensitive regions and later working toward the mouth. He should be encouraged to put soft rubber toys in the mouth. Deep pressure may be applied to the gums with the guidance of a therapist skilled in feeding intervention.

As with vomiting, gagging can be a form of tantrum or attention seeking behavior. If this is the case, the person feeding the child should not react. Children may also gag to show a dislike of the food being served.

Another common problem among children with physical or mental delays is rumination. Food swallowed returns to the mouth and may be reswallowed or spit out. If serious, rumination can cause electrolyte disturbances or malnutrition and require medical attention. The child may be getting too much food or may need a little more attention. A pacifier, thickened feedings or dry feedings can be useful.

INFANTILISM

The transition from bottle to cup and strained to table foods should be completed around one year of age in normal children. In delayed children, parents or teachers may underestimate the child's potential and consequently not encourage or allow the practice needed to develop eating and self-feeding skills. Other parents cling to the convenience and simplicity of feeding baby-like food.

Developmentally delayed children may refuse solids for a number of reasons. These include abnormal muscle tone; poor postural alignment; hypersensitivity of the mouth, lips, and tongue; gagging and tongue thrust; a developmental ability of less than six months; conflicts between parents or teachers and the child; resistance to any change; and other behavioral problems.

Children usually show signs that they are ready to eat solids. They might reach out for food, chew toys, or mouth other things. In handicapped children, these clues may be very subtle and are easily missed.

A normal part of any child's development is the urge to be independent. Self-feeding is a sign of independence. Some parents, wanting to help too much, tend to overprotect. The child will learn faster if his actions are guided but not if he continues to be totally dependent on someone else.

Once the child is ready to accept different textures and start self-feeding, use of bottles and baby foods should stop. The child's general social behavior often improves when he learns to self-feed even if it is only finger feeding. Parents should accept the initial messiness, show patience, and if necessary, seek help from a physical, speech, or occupational therapist on feeding methods and desensitization techniques. Development of good oral-motor skills follows a definite developmental sequence. The therapist may recommend specific positioning or handling techniques to help the child acquire these developmental milestone skills. Several books on feeding skill development are listed in the reference section.

DISRUPTIVE MEALTIME BEHAVIOR

Each eating situation makes different demands on a child. Before deciding that a child's behavior is inappropriate, the mealtime should be examined to determine if demands made on the child are realistic. Generally, the child should be allowed to finish eating and leave the table. Sitting still and watching others eat is too difficult for many children. If the child eats adequately at other meals or snacks, a small appetite at one meal may be normal. If the child eats alone, she may need a model to learn appropriate behavior.

If a child's behavior is truly inappropriate, ignoring the behavior may help more than yelling, shaking, or physical contact with the child. Such actions may be interpreted as attention by the child. If the behavior continues, the child should be removed from the table. After a short time-out, the child can return to the table.

All appropriate eating attempts should be positively reinforced through praise, toys, or nutritious food. Children with developmental delays may not respond to the usual things that most children find reinforcing. An effort should be made to find an appropriate reinforcer. If food is used as a reinforcer, the following guidelines are suggested:

1. Choose a very favorite food.
2. Use high nutrient foods.
3. Have the reinforcer unavailable at other times.
4. Don't use food reinforcers right before or after a meal.
5. Use the reinforcer very consistently.

FOOD TEXTURE

The change from strained food and liquids to a greater variety in textures may be a slower process in children with oral musculature problems. It is important to encourage this process as soon as the child is ready. Although food need not be prepared specially for the child, adaptation of the family or school lunch menu may be necessary. Often children find meat tough and pieces of food too large to handle or chew. It might be necessary to use a food processor or blender to change the food texture.

Chopped, ground, or blended foods are better than strained food. They provide chewing practice and promote normal bowel movements because of fiber. Most foods requiring chewing help muscle development. As the child learns to use his tongue, mouth and throat muscles, chopped and solid foods should replace blended ones.

Good starting foods are crunchy, dissolve easily and give good sensory stimulation. Examples are crackers, cookies, breadsticks and bits of toast. Other good finger foods are small pieces of meat loaf, bits of chicken, cooked or raw vegetables, sections of fruit and cheese sticks.

Food Processors

Food processors can chop, mince, shred, slice, and extract juice. A number of food processors are available and each has specific operating instructions which should be read.

Remember that food processors work in seconds. They will chop practically anything and can be dangerous. Watch carefully to not over-process foods. With practice, you can avoid pureeing and get varying degrees of texture to help your child learn to chew. It is often unnecessary to add any liquids to foods being processed.

Blenders

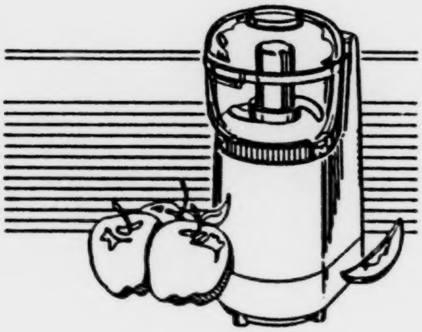
Children with oral musculature problems may require some pureed or chopped food. When several foods are blended together, an unappetizing and unappealing conglomeration results. Food should be blended individually to enhance eye appeal and acceptance. Casseroles are easily blended and well accepted by most children. Starches such as rice and spaghetti should be blended with a sauce or milk or they will become sticky.

Chop the food to be blended into one inch pieces before cooking (chopping after cooking is often messier). Cooking foods only a short time will preserve their nutritional value.

Most blenders have at least two buttons: one for pureeing and one for chopping. Puree only if necessary, otherwise chop.

Place a liquid such as the cooking liquid, milk or soup broth in the blender, using an amount of liquid less than or equal to the solid, add the chopped food and blend for several seconds to produce the correct texture. If the mixture is too thick, more fluid or blending time may be required.

It is more difficult to thicken food. Good nutritional thickeners are wheat germ, fortified baby cereal, cream of wheat, grated cheese, dry milk powder, yogurt, buttermilk and other blended foods.



SCHOOL LUNCH PROGRAM

The School Lunch Program helps protect the nutritional well-being of our nation's children. Federal regulations require that one-third of the day's nutrients be provided at lunch and another third at breakfast. Meals in family day-care homes and day-care centers are regulated also. Needy children are eligible for reduced price or free meals because they are at greater risk of malnutrition.

Research shows school lunch helps children get their nutritional requirements. Cost studies show school lunch is a definite bargain.

Because of the nutritional and economic benefits, we should encourage participation in the school lunch program. Menus now have less fat, sugar and salt, and more variety. The table on the next page shows the minimum required amounts of food for children of different ages.

For more specifics regarding USDA Child Nutrition Program regulations, contact your local school food service director or Food and Nutrition Management, Florida Department of Education, Tallahassee, FL 32399.

A sample school menu is:

BREAKFAST	**LUNCH**
Low-fat Milk	Low-fat Milk
Cereal	Sliced Turkey
Banana	Mashed Potatoes
Whole Grain Toast	Green Beans
	Fresh Fruit
	Biscuit

SCHOOL LUNCH PATTERNS FOR VARIOUS AGE/GRADE GROUPS

U.S. Department of Agriculture, National School Lunch Program

USDA recommends, but does not require, that you adjust portions by age/grade group to better meet the food and nutritional needs of children according to their ages. If you adjust portions, Groups I-IV are minimum requirements for the age/grade groups specified. If you do not adjust portions, the Group IV portions are the portions to serve all children.

COMPONENTS		MINIMUM QUANTITIES				RECOMMENDED QUANTITIES[2]	
		Preschool		Grades K-3	Grades 4-12[1]	Grades 7-12	
		ages 1-2 (Group I)	ages 3-4 (Group II)	ages 5-8 (Group III)	age 9 & over (Group IV)	age 12 & over (Group V)	SPECIFIC REQUIREMENTS
MEAT OR MEAT ALTERNATE	A serving of one of the following or a combination to give an equivalent quantity:						• Must be served in the main dish or the main dish and one other menu item. • Vegetable protein products, cheese alternate products, and enriched macaroni with fortified protein may be used to meet part of the meat/meat alternate requirement. Fact sheets on each of these alternate foods give detailed instructions for use.
	Lean meat, poultry, or fish (edible portion as served)	1 oz	1½ oz	1½ oz	2 oz	3 oz	
	Cheese	1 oz	1½ oz	1½ oz	2 oz	3 oz	
	Large egg(s)	½	¾	¾	1	1½	
	Cooked dry beans or peas	¼ cup	⅜ cup	⅜ cup	½ cup	¾ cup	
	Peanut butter	2 Tbsp	3 Tbsp	3 Tbsp	4 Tbsp	6 Tbsp	
VEGETABLE AND/OR FRUIT	Two or more servings of vegetable or fruit or both to total	½ cup	½ cup	½ cup	¾ cup	¾ cup	• No more than one-half of the total requirement may be met with full-strength fruit or vegetable juice. • Cooked dry beans or peas may be used as a meat alternate or as a vegetable but not as both in the same meal.
BREAD OR BREAD ALTERNATE	Servings of bread or bread alternate A serving is • 1 slice of whole-grain or enriched bread • A whole-grain or enriched biscuit, roll, muffin, etc. • ½ cup of cooked whole-grain or enriched rice, macaroni, noodles, whole-grain or enriched pasta products, or other cereal grains such as bulgur or corn grits • A combination of any of the above	5 per week	8 per week	8 per week	8 per week	10 per week	• At least ½ serving of bread or an equivalent quantity of bread alternate for Group I, and 1 serving for Groups II-V, must be served daily. • Enriched macaroni with fortified protein may be used as a meat alternate or as a bread alternate but not as both in the same meal. NOTE: *Food Buying Guide for Child Nutrition Programs*, PA-1331 (1983) provides the information for the minimum weight of a serving.
MILK	A serving of fluid milk	¾ cup (6 fl oz)	¾ cup (6 fl oz)	½ pint (8 fl oz)	½ pint (8 fl oz)	½ pint (8 fl oz)	At least one of the following forms of milk must be offered: • Unflavored lowfat milk • Unflavored skim milk • Unflavored buttermilk NOTE: This requirement does not prohibit offering other milks, such as whole milk or flavored milk, along with one or more of the above.

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[1] Group IV is highlighted because it is the one meal pattern which will satisfy all requirements if no portion size adjustments are made.

[2] Group V specifies recommended, not required, quantities for students 12 years and older. These students may request smaller portions, but not smaller than those specified in Group IV.

BEST COPY AVAILABLE

Some mentally and physically handicapped children have difficulty eating a school lunch or breakfast. Teachers may find that the menu does not suit the eating abilities of their students. Other students may be very picky eaters with limited food preferences.

Some school cafeterias can chop or puree foods which are difficult to chew. Other schools do not have facilities, equipment, or staff, to modify the food texture, especially if meals are not prepared on site. Many teachers have to chop or puree food in their classrooms. A food processor and blender are essential, as are aides to help prepare the food and assist the children in developing self-feeding skills. Depending upon the ability of the students, much classroom learning can be built into mealtime.

Most School Lunch Programs should be able to arrange healthy substitutions for special diets, for example, a milk-free diet. Cafeteria managers can often obtain consultation regarding special diets from supervisory dietitians at the area/ district level.

Designing a feeding program for a developmentally delayed child requires individualization, since energy, nutrients, and texture needs vary. Expectations for developing self-feeding skills should be realistic. There are a number of excellent books on the reading list to help you.

As developmentally delayed infants and children enter the mainstream of education, careful planning with parents is necessary so that mealtimes provide appropriate foods and learning opportunities both at home and school.

DIET AND HYPERACTIVITY

The term "hyperactive" is used to describe a child with a short attention span, increased motor activity, restlessness, impulsivness, aggressiveness and low frustration tolerance. In 1975, Dr. Benjamin Feingold attributed these behavioral disturbances to salicylate-like natural compounds in food and to artificial food flavorings and colorings.

Feingold claimed his diet effectively treated 48% of hyperactive children. Controlled scientific studies **do not** support the Feingold diet. It is well-known that a major change in eating habits will produce behavioral changes regardless of the type of diet. It is believed that children often show a positive response to the increased parental attention which the Feingold diet requires.

The Feingold treatment consists of an exclusion diet in which 21 fruits and vegetables are omitted in addition to all foods that contain artificial colors and flavors. Non-food items such as toothpaste, mouth-wash, cough drops and many prescription and over the counter drugs are also eliminated.

Parents and teachers are attracted to the diet because of dissatisfaction with other therapies and as an alternative to medication. A major concern with the child on this diet is that appropriate medical and other professional attention not be neglected. A child can receive a nutritionally adequate diet on the exclusion plan with very careful meal planning.

Nutrition problems related to drugs for hyperactivity are discussed next.

DRUG NUTRIENT INTERACTION

Some medicines affect the body's use of food. Some foods interfere with medicine's effectiveness in the body. Handicapped children may have to take medications such as anticonvulsants (dilantin or phenobarbital), tranquilizers, antispasmodics, or stimulants for hyperactivity (ritalin or dextroamphetamine). Other drugs commonly used in childhood illnesses include aspirins, antibiotics and laxatives.

Food related guidelines for taking medications are:

Ampicillin	Do not take with fruit juice.
Aspirin	Take with meals.
Colace	Take with milk or juice.
Dexedrine	Take with meals.
Dilantin	Take with meals.
Ducolax	Do not take with milk.
Macrodantin & Furadantin	Take with meals.
Mineral oil	Take at bedtime, if at all.
Ritalin	Take 1/2 hour before meals unless appetite loss results.
Tetracycline	Take on empty stomach—do not take with milk.

Because some tranquilizers cause saliva to thicken, saliva's efficiency in tooth-decay prevention is reduced. Therefore rinsing the mouth of excess food particles and sugars will help prevent tooth decay for children on these drugs. When constipation occurs as a side effect of tranquilizers such as valium and thorazine, increase fluids and fiber in the diet.

Many parents crush their child's pills in a small quantity of pureed food. Although this is fine for some medicine, time-release medications should not be crushed.

Hyperactivity is frequently treated with stimulant medication. Loss of appetite is a common side effect and may slow growth. Careful scheduling of the child's meals and medicine is important. A child will generally eat breakfast better in the half hour before the medication takes effect. As each dosage wears off, high nutrient food should be given to take advantage of the better appetite. A drug's effect on sleep and mood should be investigated, as should changes in dietary habits. A rebound or catch-up weight gain is possible when stimulants are stopped during summer vacation.

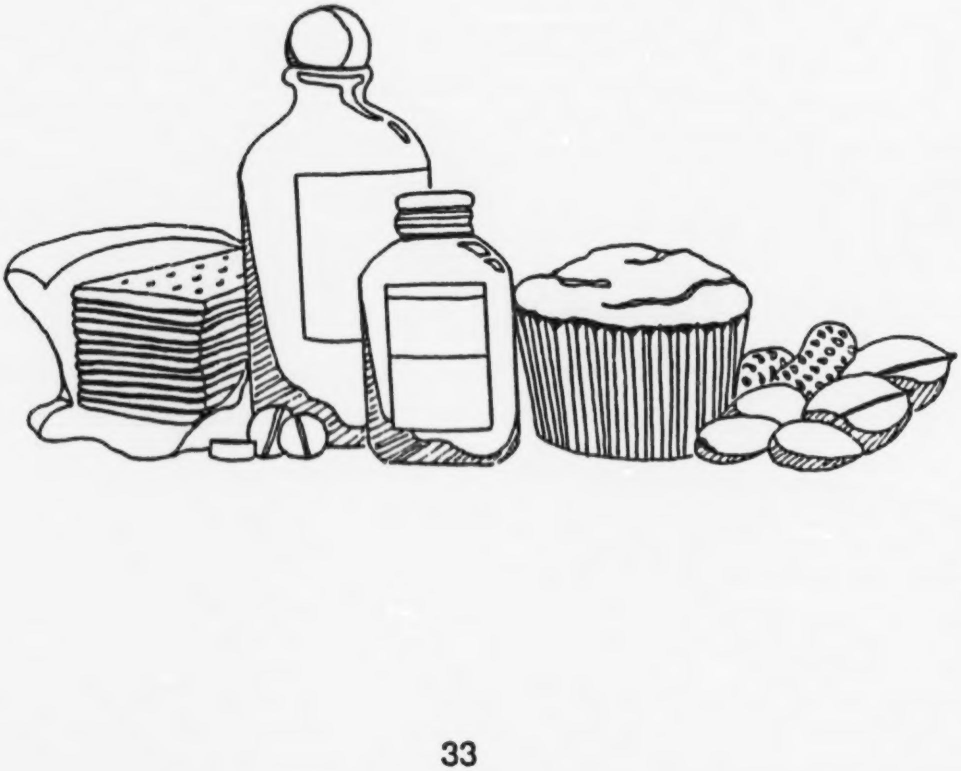
Anticonvulsant drugs may increase a child's need for folic acid, Vitamin D and calcium. The medication dose and duration of therapy affect the nutrient deficiencies. Foods high in these nutrients are milk, meat, organ meats, such as liver, green leafy vegetables and yogurt. Eating a varied diet is a good rule to follow. Folic acid and vitamin D supplements may be indicated with the precautions that large doses of folic acid may increase seizure activity and vitamin D is harmful in large amounts. Self-medicating is therefore not recommended.

Some simple rules to follow when a child takes medications are:

1. Read labels on over-the-counter remedies and package inserts that come with prescription drugs.

2. Follow doctor's orders about when to take drugs and what foods and beverages to avoid.

3. Eat a nutritionally balanced diet from a variety of foods. Long-term use of medications are less likely to cause nutritional deficiencies if the overall diet is good.



Special Infant Concerns

Infancy, the time from birth to one year of age, is a rapid growth period. Infants usually double their birthweight by three to four months and triple it by one year. Length increases 50% from about 20 inches at birth to 30 inches at one year.

Nutrition is very important during an infant's first year. Calorie and protein needs, per pound of body weight, are greater than at any other time of life. Care regarding the amount and types of food is necessary because the infant's digestion and absorption system is immature.

For the first six months, an infant's diet is either breast milk or infant formula. Breast milk has easy to digest protein, the right vitamins and minerals, and important anti-infection factors to keep infants healthier. Even premature infants and those with a genetic disorder or chronic illness can be breastfed with special guidance by health professionals.

For infants not breastfed or breastfed for only a short time, an iron fortified commercial formula is an adequate alternative. Infant formulas closely resemble human milk.

Most commercial formulas are made from cow's milk. The common brand names and manufacturers are Similac (Ross), Enfamil (Mead Johnson), and SMA (Wyeth). These three formulas are similar and in an emergency can substitute for each other.

Infants with milk intolerance or a family history of milk allergy need soy formulas. The formulas have non-allergic substitutes for protein and carbohydrates. Common soy formulas are Isomil (Ross), ProSobee (Mead Johnson), and NurSoy (Wyeth). These soy formulas are similar and in an emergency can substitute for one another.

Nutramigen and Pregestimil (Mead Johnson) are special formulas for infants with severe or multiple allergies, serious digestive problems, malabsorption, malnutrition and other medical conditions. The powder is diluted one scoop to two ounces of water, or one packed level cup to 29 fluid ounces.

The Florida Special Supplemental Food Program for Women, Infants and Children (WIC) contracted with Wyeth Laboratories to provide SMA and Nursoy in WIC public health clinics. Nutramigen and Pregestimil are also available by special order.

Infants are ready to eat solids when they can sit with support, tongue thrust has disappeared, and they can swallow non-liquid foods. Rice cereal, with its low allergy potential and high iron content, is usually the first solid food given. The cereal is mixed with a small amount of formula and then fed by spoon. Cereal should not be put into the baby's bottle. If nipple holes have been enlarged for cereal, replace them. If an infant sucks hard without getting much formula, check if the nipple is clogged with dried milk or cereal.

Once the infant is used to eating cereal, vegetables or fruit can be given, and then, a few months later, soft or pureed meat is appropriate. New foods should be introduced one at a time so allergies can be recognized. Common allergic reactions during infancy are diarrhea, rashes and breathing problems.

Good eating goals are to have toddlers self-feed and eat regular table food as soon as possible. Most normal infants do not need baby food after one year of age. They can also learn to drink from a cup during their first year.

Nutrition for infants depends upon body size, activity level and diagnosis. To check if an infant is eating enough or too much, height and weight should be measured regularly and plotted on a standardized growth chart. Growth charts are available for free from Ross or Mead Johnson. An infant should grow steadily along the same path on the growth chart. Slow or no growth is called "failure to thrive" and needs careful follow-up by health professionals.

Infant feeding can be a pleasant experience for the infant and the feeder. Parents and teachers of mentally or physically handicapped infants set the foundation for future success in self-feeding and healthy food habits.

RECOMMENDED READING FOR PARENTS

Baker, S. and Henry, R.R., Parent's Guide To Nutrition. Massachusetts: Addison-Wesley Pub Co. 1986 ($16.95).

Feeding plans, factors affecting food habits, nutrition, fad diets, additives, food management at home.

Coffey, K.R., and Terrell, M.A., Fun Foods For Fat Folks. Child Development Center, Department of Nutrition, 711 Jefferson Ave. Memphis, TN 38105. 1973 ($12.50).

Low calorie and fun recipes for overweight children

Food Sensitivity: A Resource Including Recipes: Gluten Intolerance: A Resource Including Recipes: and Lactose Intolerance: A Resource Including Recipes. American Dietetic Association, Sales Order Dept., Box 10960, Chicago IL 60606-6995, 1985 ($10.95 + postage $2.50).

Goldberg, P.Z., So What If You Can't Chew, Eat Hearty! Recipes and a Guide for the Healthy & Happy Eating of Soft & Pureed Foods. Springfield: Charles C. Thomas. 1980 ($14.95).

100+ recipes and ideas for nutritious tasty meals.

Good Eaters—Not Tiny Tyrants: Feeding Children ages 3 to 5. American Dietetic Association, Sales Order Dept., Box 10960, Chicago, IL 60606-6995, 1986 (one free with stamped, self-addressed envelope).

Pamphlet with practical advice on how much, how often, which foods, sweets and food jags.

Lansky, V., Feed Me! I'm Yours. Wayzata: Meadowbrook Inc., 1986 ($6.95).

Recipes for infants, toddlers andchildren including baby food from scratch, finger foods and "seasonal recipes."

Lansky, V., The Taming of the C.A.N.D.Y. Monster. New York: Bantam Bks, 1985 ($2.95).

Recipes and ideas for nutritious alternatives to junk food snacks, brown bag lunches and desserts.

McClannahan, C., Feeding and Caring for Infants and Children with Special Needs. American Occupational Therapy Association, Box 1725, Rockville, MD 60856. 1985 ($5.20).

Booklet suggests feeding and care practices for parents of young children who have developmental problems.

Naton, A. and Heslin, J-A., No-Nonsense Nutrition for Kids. New York: Pocket Bks, 1986 ($3.95).

Answers to questions about common nutrition problems of childhood, including illness times plus child-tested recipes.

Naton, A. and Heslin, J-A., No-Nonsense Nutrition from Toddlers to Pre-Teen. New York: McGraw Hill, 1984 ($15.95).

Satter, E., Child of Mine. Feeding with Love and Good Sense. New York: Bull Pub, 1986 ($10.95).

Nutrition and feeding issues from pregnancy through the toddlerhood; includes special problems of diarrhea, obesity and regulation of food intake.

Shattuck, R., The Allergy Cookbook: Tasty Nutritious Cooking Without Wheat, Corn, Milk or Eggs. New York: New American Library, 1984 ($8.95).

Helpful hints and easy to prepare gourmet recipes for those allergic to wheat, corn, milk and/or eggs.

UCP of Birmingham. Nutritional Care for the Child with Developmental Disabilities. Five booklets: 1) Promoting Weight Gain. 2) Weight Control for the Overweight Child. 3) Oral-Motor Development and Feeding Technique. 4) Management of Constipation. 5) Meal Planning for the Childhood Years. UCP, 2430 11th Ave. No. Birmingham, AL 35234. 1986 ($1.00 each).

Designed as guides in planning nutritional care for special children; practical information for parents.

RECOMMENDED READING FOR TEACHERS AND OTHER PROFESSIONALS

Amary, I.B., Effective Meal Planning and Food Preparation for the Mentally Retarded/Developmentally Disabled: Comprehensive & Innovative Teaching Methods. Springfield: Charles C. Thomas, 1979 ($21.50).

As title states, methods for planning, shopping and food preparation for adolescents and young adults.

American Dietetic Association: Infant and child nutrition: Concerns regarding the developmentally disabled. J Am Diet Assoc 78:443, 1981. (216 W Jackson, Chicago, IL 60606-6995).

American Dietetic Association Position and Technical Support Papers: Nutrition in comprehensive program planning for persons with developmental disabilities. J Am Diet Assoc 87:1068, 1987.

American Dietetic Association: Nutrition standards in day care programs for children. J Am Diet Assoc 87:503, 1987.

Bayle, L., Picture Books for Preschool Nutrition Education. 73 Meriam St., Lexington, MA 02173. 1987 ($5.00 + $1 handling).

Selected, annotated bibliography of over 130 books for children ages 2-6, stories in which healthy foods are important.

Carp, D., Krick, J., and Webster, C., Eating for Good Health. The Nutrition Division, John F. Kennedy Institute For Handicapped Children, 707 N Broadway, Baltimore, MD 21205. ($3.50+handling $1.50).

Practical application of nutrition science to intervene with prevalent problems of disabled children in daily activities.

Craft, P. and Herring, B., A Nutrition Education Program for the Handicapped. ERIC Document Reproduction, Box 190, Arlington, VA 22210. Call number: ED 206 129. 1980 ($0.97 + postage $0.37).

Ideas and guidance for teachers on making nutrition an integral part of a handicapped child's school program.

Crump, I., Nutrition and Feeding of the Handicapped Child. College-Hill Press/Little, Brown & Co. 200 West St., Waltham MA 02254-9931. 1986 ($22.50).

Illustrated solid reference for teachers, therapists, nurses and other school staff.

Endres, J.B. and Rockvell, R.E., Food, Nutrition, and The Young Child. St. Louis: Times Mirror/Mosby College Pub, 1985 ($18.95).

Overview of nutrition, meal management and nutrition education for young children.

Exploring Foods with Young Children: A Recipe for Nutrition Education. State of Florida, Department of Education, Tallahassee, FL 32304. 1977 (Free).

Guide for pre-school and early elementary teachers to integrate nutrition education into existing curricula.

Goodwin, M.T., and Pollen, G., Creative Food Experiences for Children. Washington, D.C.: Center for Science in the Public Interest. 1980 ($5.95).

Fun with food learning activities and suggestions for expanding school food and nutrition curriculum.

Healy, A., The Needs of Children with Disabilities. Dept. of Pediatrics. Campus Store, 208 GSB, Univ. of Iowa, Iowa City, IA 52242. 1983 ($2.50).

Monograph reviews specific areas of concern for children with developmental problems.

Johnson, V.S., Smith, M.A.H., Bittle, J.B. and Nuckolls, L.J., Nutrition Education for Retarded Children—A Program for Teachers Child Development Center, Department of Nutrition, 711 Jefferson Ave. Memphis, TN 38105. 1980 ($14.50).

Step-by-step model instruction with materials for teaching the Basic Four to normal and moderately retarded children.

McClenahan, P. and Jaqua, I., Cool Cooking for Kids. Belmont: D S Lake Pub, 1976 ($7.95).

Teaching cooking and nutrition to preschoolers including recipes that do and don't use heat.

Nutrition and Feeding for the Developmentally Disabled. South Dakota Department of Education, Child & Adult Nutrition Services, 700 N. Illinois, Pierre, SD 57501. 1985 ($3.50).

A "How-To" reference manual for basic nutrition information and detailed information on South Dakota resources.

Palmer, S. and Ekval, S., Pediatric Nutrition in Developmental Disorders. Springfield: Charles C. Thomas, 1978 ($64.75).

Excellent technical resource with detailed information on syndromes, metabolic and chromosome disorders, etc; worth budgeting into school's expense account.

Steed, F., A Special Picture Cookbook. Austin: Pro-Ed, 1977 ($12).

Helps parents and teachers teach retarded children to prepare their own meals.

UCP of Minnesota. Nutrition for Children with Special Needs. UCP, St. Paul, MN 1985 ($6.00).

Information on specific nutrition problems related to handicapping conditions; fosters team approach among school staff.

Wanamaker, N., Hearn, K., and Richarz, S., More than Graham Crackers: Nutrition Education and Food Preparation with Young Children. Washington, DC: National Association for the Education of Young Children. 1979 ($4.00).

Excellent collection of recipes, enjoyable food activities and child nutrition information.

GUIDES FOR FEEDING SKILL DEVELOPMENT

Connor, F.P., et al., *Program Guide for Infants & Toddlers with Neuromotor & Other Developmental Disabilities.* New York: Columbia University, Teachers College Press, 1978 ($16.95).

Finnie, N.R., *Handling the Young Cerebral Palsied Child.* New York: Dutton, 1975 ($7.95).

All areas of daily living skills; good chapter on feeding; management through parental guidance.

Neely, R.A., et al., *Program for Feeding Training of the Developmentally Delayed Child.* Child Development Center, Department of Nutrition. 711 Jefferson Ave., Memphis, TN 38105. 1977 ($5.50).

Program outline for feeding training of children with potential self-feeding skilldevelopment.

Perske, R., Clifton, A., Mclean, B., and Stein, J., *Mealtimes for Persons with Severe Handicaps.* Baltimore: P H Brookes, 1977 (16.95).

Suggestions for creative interactions of people and helpful mealtime atmospheres.

Pipes, P.L., *Nutrition in Infancy and Childhood*. St. Louis: Mosby Co., 1984 ($16.95).

Normal nutrition focus with goodchapter on feeding the developmentally delayed child.

Smith, M.A.H., et al., *Feeding Management of a Child with a Handicap: A Guide for Professionals.* Child Development Center, 711 Jefferson Ave., Memphis, TN 38105. 1982 ($9.50).

Interdisciplinary assessment of normal and delayed feeding skills with treatment ideas from case studies.

RECOMMENDED BOOKS ABOUT GENERAL NUTRITION

Brody, J., Jane Brody's Nutrition Book. New York: W.W. Norton Co., 1981.

Sensible easy-to-understand information.

Herbert, V., Nutrition Cultism: Facts and Fiction. Philadelphia: Geo Stickley Co., 1980 ($12.95).

How to choose fact over fiction and prevent us from believing and following food and nutrition quackery.

Marshall, C.W., Vitamins and Minerals: Help or Harm? Philadelphia: Geo Stickley Co., 1985 ($11.95).

Helps laypersons gain basic knowledge about vitamins and minerals; reveals myths about megavitamin intakes.

Pennington, J., Church H., Food Values of Portions Commonly Used. Harper & Row Pub, 1985 ($17.45/paper $8.95).

Comprehensive list of nutritive values in foods; plus tables of amino acids, trace minerals, caffeine, etc.

Saltman, P., Gurin, J., Mothner, I., The California Nutrition Book. Boston: Little, Brown & Co., 1987 ($17.95).

"Debunks nutritional fads and fashions; dispels unreasonable food fears; makes healthy eating fun again."

Whitney, E. and Hamilton, E., Understanding Nutrition. (4 ed.) St. Paul: West Pub Co., 1987 ($37.25).

Well-presented solid information including evidence for and against controversial nutrition issues.

COOKBOOKS

American Heart Association Cookbook, 4 ed. New York: Balentine Bks, 1986.

Brody, J., Jane Brody's Good Food Book. New York: W.W. Norton, 1985 ($22.95).

"Living the high carbohydrate (healthy) way."

Connor, S.J., Connor, W.E., The New American Diet. New York: Simon & Schuster, 1986 ($18.95).

Lifetime family approach to healthy low fat eating as protection against heart disease, cancer, high blood pressure, obesity.

DeBakey, M.E., et al., The Living Heart Diet. New York: Simon & Schuster, 1986 ($9.95).

Good approach to eating the heart-healthy way—low fat, low cholesterol.

Dong, F.M., All About Food Allergy. Philadelphia: Geo. Stickley Co., 1984 ($14.95).

Robertson, L., Flanders, C., and Godfrey, B., The New Laurel's Kitchen. Berkeley: Ten Speed Press, 1986 ($15.95).

Terrific vegetable and whole grain recipes, good nutrition and menu planning advice.

Robertson, L., Flanders, C., and Godfrey, B., Laurel's Kitchen Bread Book: A Guide to Whole-Grain Breadmaking. New York:Random House, 1984 ($19.95).

Westland, P., High Fiber Cookbook: Recipes for Good Health. New York: Arco Pub. Inc., 1982.

State of Florida
Department of Education
Tallahassee, Florida
Betty Castor, Commissioner
Affirmative action/equal opportunity employer

FEEDING SKILLS

Normal infant feeding reflexes:

- rooting reflex
- suck swallow reflex
- protective gag reflex
- bite reflex
- chewing reflex.

➜

Module	Hour	Handout
10	3	1

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FEEDING SKILLS

(continued)

Normal Development of Skills:

0-2 months
- sucks well from bottle or breast
- coordinates sucking, swallowing and breathing

3-5 months
- sucks and swallows pureed food from spoon
- normal rooting reflex begins to disappear
- gums or mouths pureed food
- has greater control of bite reflex

6-8 months
- gums and swallows cracker
- closes lips on spoon to remove food
- drinks from cup with help
- picks up spoon
- chews with side to side tongue motion

9-11 months
- finger feeds
- bites cracker
- chews cracker
- licks food off spoon
- eats mashed table food
- stops drooling (if not teething)
- swallows with closed mouth

Module	Hour	Handout
10	3	1 (con't.)

FEEDING SKILLS

(continued)

12-15 months
- feeds self with spoon (many spills)
- picks up and drinks from cup (some spilling)
- chews well

16-19 months
- drinks from cup with assistance
- eats with spoon independently (entire meal)
- discriminates edibles

20-23 month
- unwraps candy
- peels or pits fruit
- sucks through straw

24-35 months
- begins to use fork
- gets drink with help
- spoon feeds (no spilling).

Module	Hour	Handout
10	3	1 (con't.)

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Feeding Problems

Caretakers should seek training before attempting to use corrective or therapeutic techniques when feeding a child with these feeding problems:

- tactile sensitivity
- inability to chew
- tongue thrust
- poor jaw control
- poor lip closure
- no oral feeding

  gastrostomy tube (G Tube)
  nasogastro tube (N-G Tube).

Drooling

Drooling increases when child is teething.

Drooling increases when child eats sweets, or citrus products, including oranges, grapefruits, lemons, limes, tomatoes, ketchup, and spaghetti sauce.

Module	Hour	Handout
10	3	2

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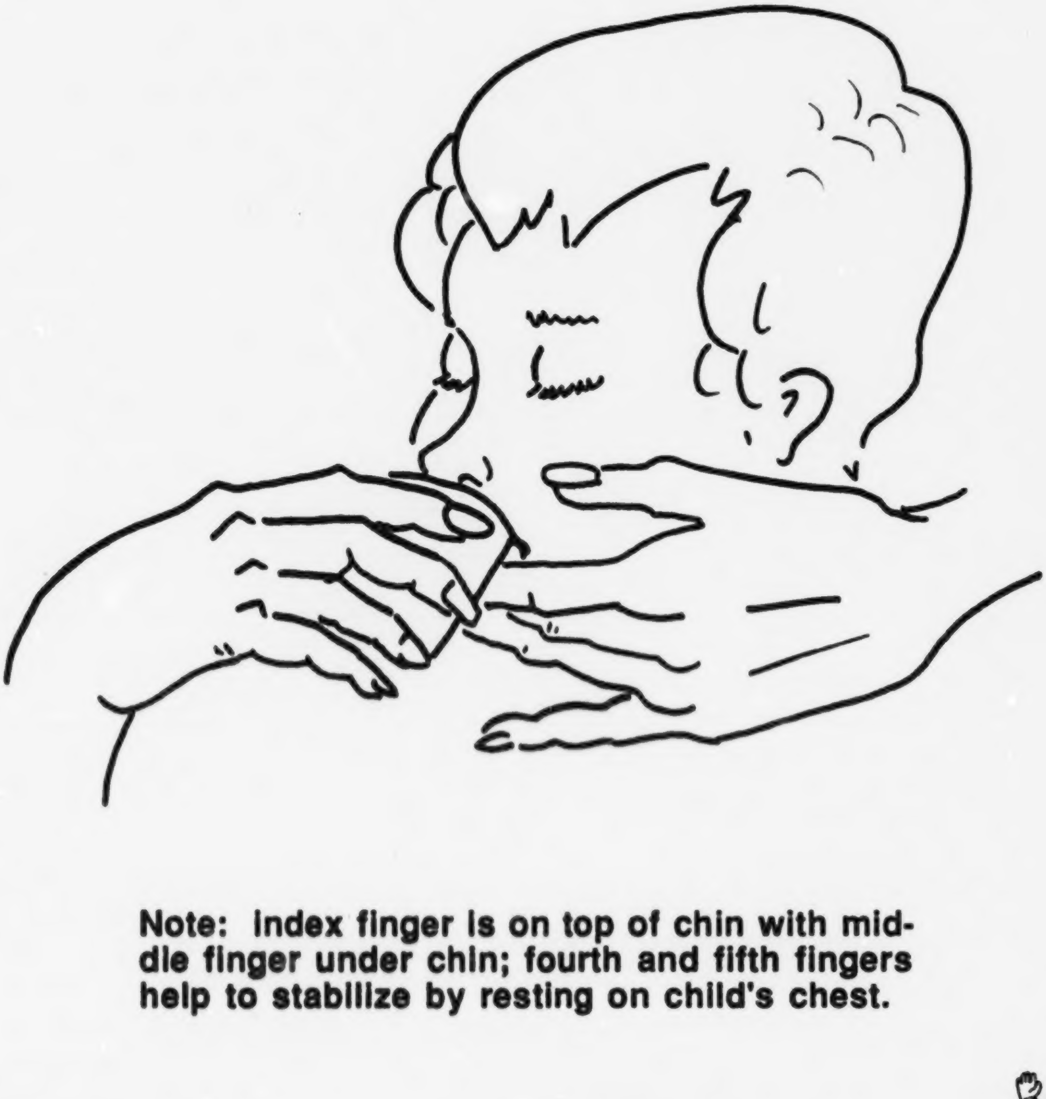
Providing Jaw Stability Through Manual Control, Allowing the Child to Achieve Lip Closure.



Note: Index finger is on top of chin with middle finger under chin; fourth and fifth fingers help to stabilize by resting on child's chest.

Module	Hour	Handout
10	3	3

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The Florida Diagnostic and Learning Resources System - FDLRS

Your local FDLRS center can provide specific information regarding handicapping conditions and local community resources. They also may provide support services, screening and diagnostic services, resource materials, training and other forms of assistance regarding the education and care of infants/toddlers with special needs. If they do not have a ready answer or solution for you, they may refer you to a resource that does.

There are 18 FDLRS associate centers throughout Florida. They are listed below according to the counties they serve.

Escambia, Santa Rosa, Okaloosa
FDLRS/Westgate Associate Center
30 E. Texar Dr., Pensacola, FL 32503
(904)433-7563/(904)434-3732

Washington, Bay, Calhoun, Franklin, Gulf, Holmes, Liberty, Walton, Jackson
FDLRS/PAEC Associate Center
411 W. Boulevard, Chipley, FL 32428
(904)638-4131

Leon, Gadsden, Jefferson, Taylor, Wakulla
FDLRS/Miccosukee Associate Center
1940 N. Monroe St., Suite 50, Northwood Mall,
Tallahassee, FL 32303
(904)487-2630/(904)488-4150

Hamilton, Columbia, Lafayette, Madison, Suwannee
FDLRS/Gateway Associate Center
P.O. Box 1387, Jasper, FL 32052
(904)792-2877

Putnam, Baker, Bradford, Flagler, St. Johns, Union
FDLRS/NEFEC Associate Center
N.E. Florida Educational Consortium
P.O. Box 198, Bostwick, FL 32007
(904)328-8811

Duval, Clay, Nassau
FDLRS/Crown Associate Center
1450 Flagler Ave., Room 15
Jacksonville, FL 32207
(904)390-2075/(904)390-2154

Marion, Alachua, Citrus, Dixie, Gilchrist, Levy
FDLRS/Springs Associate Center
Collier Elementary School
3881 N.W. 155th St., Reddick, FL 32686
(904)591-4300

Orange, Lake, Osceola, Seminole, Sumter
FDLRS/Action Associate Center
1600 Silver Star Rd., Orlando, FL 32804
(407)293-5841/(407)295-4020

Brevard, Volusia
FDLRS/East Associate Center
1450 Martin Blvd., Merritt Island, FL 32952
(407)631-1911

St. Lucie, Indian River, Martin, Okeechobee
FDLRS/Galaxie Associate Center
Means Ct., 532 N. 13th St., Ft. Pierce, FL 34950
(407)468-5360

Pinellas, Hernando, Pasco
FDLRS/Gulfcoast Associate Center
1895 Gulf-to-Bay Blvd., Clearwater, FL 34625
(813)442-1171/(813)462-9687

Hillsborough
FDLRS/Hillsborough Associate Center
Department of Education for Exceptional Students
411 E. Henderson Ave., Tampa, FL 33602
(813)272-4555/(813)272-4537

Polk, Hardee, Highlands
FDLRS/III Associate Center
495 S. Florida Ave., Bartow, FL 33830
(813)534-2877

Module	Hour	Handout
10	3	4

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Sarasota, Charlotte, De Soto, Manatee
FDLRS Associate Center
1135 Gun Club Road, Sarasota, FL 34232
(813)378-4283

Collier, Glades, Hendry, Lee
FDLRS/Big Cypress Associate Center
Collier County Public Schools Admin. Center
3710 Estev Ave., Naples, FL 33942
(813)793-3362

Palm Beach
FDLRS/Alpha Associate Center, Cedar Square
2112 S. Congress Ave.
West Palm Beach, FL 33406
(407)433-3500

Broward
FDLRS/Reach Associate Center
1400 N.E. 6th St.
Pompano Beach, FL 33060
(305)786-7698/(305)768-7712

Dade, Monroe
FDLRS/South Associate Center
9220 S.W. 52nd Terrace
Miami, FL 33165
(305)274-3501

The following FDLRS Specialized Centers may also be helpful.

Clearinghouse/Information Center
Florida Department of Education
Bureau of Education for Exceptional Students
Florida Education Center, Tallahassee, FL 32399
(904)488-1879

Communication Systems Evaluation Center (CSEC)
434 N. Tampa Ave., Sta. 702
Orlando, FL 32802
(407)423-9212/(407)422-3200

Florida Instructional Materials for the Visually Handicapped (FIMC)
5002 N. Lois Ave., Tampa, FL 33614
(813)876-5016/(800)282-9193

Educational Television and Captioning Center for the Hearing Impaired
207 N. San Marco Ave., St. Augustine, FL 32084
(904)824-1654

FBDS Outreach/Parent Education Services
Florida School for the Deaf and the Blind
207 N. San Marco Ave., St. Augustine, FL 32084
(904)824-1654

FDLRS/FSU - Regional Evaluation and Consulting Center
218 Regional Rehabilitation Center
Florida State University, Tallahassee, FL 32306
(904)644-2222

FDLRS/USF - Multidisciplinary Diagnostic and Evaluation Services
Univ. of South Florida Psychiatry Center
3515 E. Fletcher Ave., Tampa, FL 33613
(813)972-7032

FDLRS/UF - Multidisciplinary Diagnostic and Training Program
Box J-282 JHM Health Center
University of Florida, Gainesville, FL 32610
(904)392-6442/(904)392-5874

FDLRS/JU - First Coast Interdisciplinary Center, Jacksonville University
University Blvd. N., Jacksonville, FL 32211
(904)744-3950

FDLRS/Mailman - Multidisciplinary Evaluation Services
Mailman Center for Child Development
University of Miami
P.O. Box 016820, Miami, FL 33101
(305)547-6624

FDLRS/TECH
Instructional Technology Training
Resource Unit
1450 Martin Blvd.
Merritt Island, FL 32952
(407)631-1911

FOR AN UPDATED COPY OF THIS LIST, PLEASE CONTACT THE CLEARINGHOUSE AT THE ABOVE ADDRESS.

Module	Hour	Handout
10	3	4 (con't)

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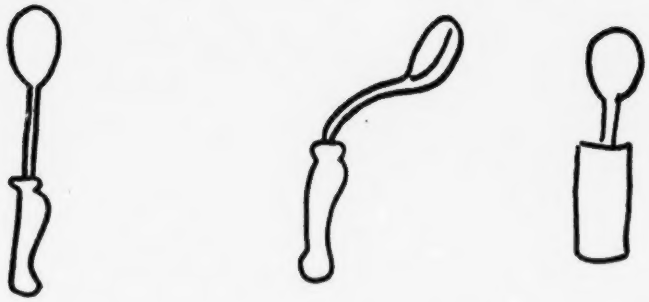
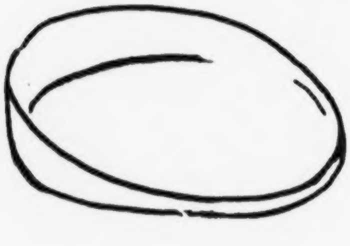
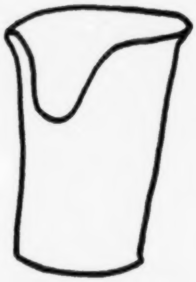
Adaptive Feeding Equipment



Curved Spoons





Scoop Dish

High part of plate should be nearest child.

Nose Cup

Module	Hour	Handout
10	3	5

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Appendix C

Reproducible Forms for the Six-Week Follow-Up Activity

The Six-Week Follow-Up Activity

MITCH Module 10
NUTRITION AND FEEDING PRACTICES:
What You Need to Know

These completed forms should be sent to:

Name: ______________________________

Address: ______________________________

These forms are due at the above address by: ____________ date

Directions

Answer the following questions as completely as possible.

Name ____________________

Date ____________________

MITCH Module 10

1. Describe 3 lunches offered in your program during the past two weeks. Include portion sizes and the age of the group served.

2. For the meals listed in number 1, above, describe a change/addition you could make that would improve the meal. The change might make the meal more acceptable to the children or might improve the nutrient quality of the meal.

3. Describe one situation where there was a behavior problem related to eating.

   a. What did you do?

   b. Did this produce the desired outcome?

   Yes ________ No ________

c. What might have caused the problematic behavior?

d. What alternative interventions might have been tried?

3. Identify a child in your program, or from our discussions, who could benefit from using adaptive equipment for an eating problem.

   a. What is the child's eating problem?

   b. What equipment might be recommend and why?

For ease of use, instructor is encouraged to remove the staple on this booklet and place the module into a three-ring binder.

Trim the binder identifier to an appropriate size, and affix to the spine of the binder.

BINDER IDENTIFIER

Nutrition and Feeding Practices: What You Need to Know

State of Florida
Department of Education
Tallahassee, Florida
Betty Castor, Commissioner
Affirmative action/equal opportunity employer

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